

Search history

Search 1: TAC=(Glass furnace) (Results 1970)
Search 2: screw and conveyor (Results 135710)
Search 3: 1 and 2 (Results 35)

1) Family number: 24858732 (US1199108A)

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Title: ART OF CONVEYING MOLTEN GLASS.

Abstract: Source: GB104605A [EN] 104,605. Jackson, W. J. Mellersh-, (Hartford-Fairmont Co.). June 19, 1916. Delivering molten metal.-A method of conveying molten glass from the furnace to the shaping- apparatus consists in causing the glass to flow, either as drops or as a continuous stream, along a conduit lined with a film of fluid. In the apparatus shown in Fig. 1, drops 3 of glass are conveyed from the spout 2 of the furnace to a mould 6 by means of a conduit 4, the surface of which is moistened by water flowing from a pipe 9. The heat of the glass vaporizes the water, and the drops of glass slide along on a cushion of vapour. The conduit may be made in adjustable sections, whereby its gradient may be altered and part or all of the stream of fluid may be diverted before reaching the end of the conduit. The conduit may be mounted for swinging movement, so that it may be used with one or more series of rotating shaping-apparatus.

Classifications:

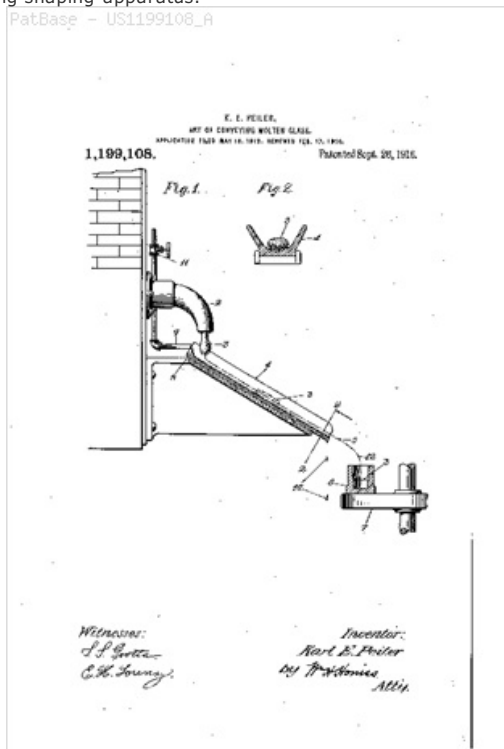
International (IPC 8-9): C03B7/16 (Advanced/Invention)

International (IPC 1-7): C03B7/16

CPC: C03B7/16

European: C03B7/16

US: 65/122 65/25.1 65/26



Family:

Publication number	Publication date	Application number	Application date
FR484040 A	19170828		00000000
GB104605 A	19170315	GB19160008648	19160619
NL4296 C	00000000		00000000
US1199108 A	19160926	US19160078963	19160217

Priority:

GB19160008648 19160619 US69820000116 19120518

Probable Assignee: HARTFORD FAIRMONT CO

Assignee(s): (std): HARTFORD FAIRMONT CO ; HARTFORD FAIRMONT COMPANY ; MELLERSH JACKSON WILLIAM JOHN

Assignee(s): WILLIAM JOHN MELLERSH JACKSON

Inventor(s): (std): MELLERSH JACKSON WILLIAM JOHN ; PEILER KARL E

Inventor(s): WILLIAM JOHN MELLERSH JACKSON ; KARL E PEILER

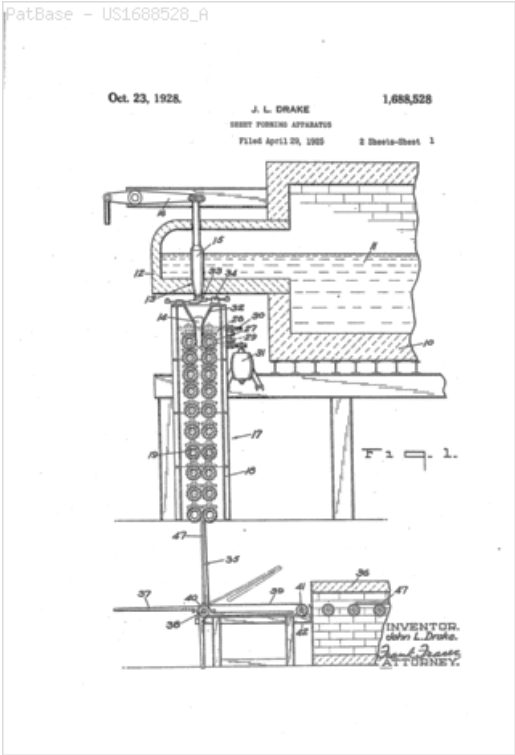
2) Family number: 20497692 (US1688528A)

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Abstract: Source: US1688528A [EN] claims. , (laims: ' 1. lu sheet glass apparatus, a glass furnace, containing molten glass,

means to discharge a gob of glass from the furnace, and a plurality of pairs of superimposed rotatable members between which the glass is adapted to be reduced to sheet form. Q. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge successive gobs of glass from the furnace, and superimposed means for reducing the glass through successive stages to predetermined dimensions. 3. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge a gob of glass therefrom, and a plurality of sets of rolls between which the gob may be run to reduce it through successive stages to the desired dimensions. 4. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge a gob of molten glass therefrom, means for reducing the gob to sheet form, and means for feeding successive gobs of the sheet from one plane to another. 5. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge an elongated gob therefrom, and means for reducing the gob to the desired thickness of sheet. 6. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge a gob of molten glass therefrom, the gob having a width substantially the same as the width of sheet desired, and means for reducing the gob through successive stages to predetermined dimensions. 7. In sheet glass apparatus, a glass furnace containing molten glass, means to discharge a gob of molten glass therefrom, means to discharge a gob of molten glass therefrom, the gob having substantially the width of the sheet desired, and a plurality of sets of rolls between which the gob may pass to reduce it to predetermined dimensions. 8. In sheet glass apparatus, a plurality of sets of rotatable sheet forming rolls the distance between the rolls in each set being progressively less from one end of the sets of rolls toward the other end thereof, and means for discharging a gob of molten glass in a manner to cause it to be run between said rolls. 9. In sheet glass apparatus, a plurality of rotatable sheet forming rolls arranged in spaced relationship the distance between the rolls in each set being progressively less from one end of the sets of rolls toward the other end thereof, and means for feeding successive gobs of glass to the said rolls. 10. In sheet glass apparatus, a glass furnace containing molten glass, gob feeding means associated therewith for successively discharging gobs of glass from the furnace, and a plurality of sets of rolls arranged below the gob feeder for reducing each to sheet form. 11. In sheet glass apparatus, a plurality of sets of rolls, the upper set of rolls being spaced relatively far apart and the lower set of rolls being spaced relatively close together, and means for passing successive gobs of between the rolls to reduce it to sheet form. 12. In sheet glass apparatus, a tank containing a mass of molten glass, means to discharge a gob of glass therefrom, and means for reducing the gob through successive stages to sheet form in a vertical position. 13. In sheet glass apparatus, a tank containing molten glass, means to discharge successive gobs of glass therefrom, a plurality of pairs of superimposed rotatable members in proximity to the tank and receiving the gobs of glass therefrom and reducing them to the desired dimensions, and means for guiding the gobs of glass between the said rotatable members. Signed at Toledo, in the county of Lucas, and State of Ohio, this 27th day of April,

Classifications:
International (IPC 8-9): C03B13/02 (Advanced/Invention); C03B13/00 (Core/Invention)
International (IPC 1-7): C03B13/02
CPC: C03B13/02
European: C03B13/02
US: 65/176 65/221 65/253



Family:

Publication number	Publication date	Application number	Application date
US1688528 A	19281023		00000000

3) Family number: 21571334 (US2116450A) © PatBase

Title: TEMPERATURE CONTROL FOR MOLTEN STREAMS

Abstract: Source: US2116450A [EN] We claim: - 1. The method of controlling the temperature of a continuous stream of molten glass flowing from a glass furnace which comprises supplying heat energy to said glass and varying the heat energy supply in accordance with the temperature variations of said stream, as indicated by the intensity of the heat radiated therefrom. 2. The method of controlling the temperature of a continuously moving stream of molten glass which comprises supplying heat energy to said glass, discharging the glass from an outlet orifice of constant area, and varying the heat energy supply in accordance with variations in the intensity of heat energy radiated from a portion of the stream. - 3. The method of controlling the viscosity of a continuously moving stream of molten glass which comprises supplying heat energy to render said glass fluid, discharging the glass in a stream from an outlet orifice of constant area, and utilizing the radiant energy emanating from a portion of said stream to vary the heat energy supply to said glass. - 4. The method of controlling the temperature of a stream of glass continuously flowing from a glass furnace, which comprises directing said stream through an outlet of uniform area, and utilizing the heat radiated from a portion of said stream of uniform area to control the temperature of said stream. 5. The method of controlling the viscosity of a batch of molten glass which comprises supplying sufficient heat energy to bring the glass to a predetermined degree of fluidity, causing the molten glass to flow in a continuous stream through an orifice of uniform area, directing radiant energy from a portion of said stream onto a heat energy absorbing element, and varying the supply of heat energy to said batch of glass in accordance with the variation in the heat energy absorbed by said element. 6. An apparatus for controlling the temperature of a stream of molten glass comprising a container for said glass, means for heating the glass to a molten condition, an orifice of uniform area, through

which said glass flows continuously in the form of a stream, and means for regulating said heating means to maintain said stream at a constant temperature. ' 7. An apparatus for controlling the temperature of a continuously moving stream of molten glass comprising a container for a quantity of glass, means for heating said glass to a molten condition, an orifice in said container for allowing a continuous flow of said glass therefrom, and means responsive to heat energy radiated from a portion of said stream for controlling said heating means. ' 8. An apparatus for controlling the temperature of a continuously moving stream of molten glass comprising a container for a quantity of glass, an element for heating said glass to a molten condition, means for causing said glass to flow continuously from said container, an electrical circuit including electrically operating means for regulating said heat1_ element, and means operative in accordance with the temperature of said stream for causing a flow of electrical energy in said circuit. 9. An apparatus for controlling the temperature of a continuous stream of molten glass comprising a furnace, means for causing a stream of glass to flow from said furnace, electrically controlled means for varying the temperature of said furnace, an electrical circuit including said electrically controlled means, and means disposed adjacent to the path of said stream and responsive to variations in the temperature of said stream for causing a flow of temperature controlling electrical energy in said circuit. 10. An apparatus for controlling the temperature of a stream of molten glass comprising a container for a quantity of glass, a burner for heating said glass to a molten condition, means for causing said glass to flow in the form of a continuous stream, an electrical circuit including means operable upon a flow of electrical energy to regulate the fuel supply to said burner, and heat responsive means disposed adjacent to the path of travel of said stream for causing a flow of electrical energy in said circuit. 11. An apparatus for controlling the temperature of a stream of molten glass comprising a container for said glass, means for heating said glass to render the same fluid, means for delivering said fluid from said furnace in a stream through an orifice having a uniform diameter, 9. radiation pyrometer external of the furnace, having a thermocouple disposed adjacent to the path of flow of said stream, an electrical circuit including the thermocouple of said pyrometer, electrically operable means for regulating the temperature of said furnace, and a relay controlling said electrically operable means in accordance with the flow of electrical energy through said thermocouple caused by temperature variations in said moving stream. 12. An apparatus for controlling the temperature of a continuous stream of molten material comprising a container, means for producing a stream of said material constantly flowing therefrom, an electrical circuit, means operable upon a flow of electrical energy in said circuit for changing the temperature of said stream, and means responsive to radiant energy disposed adjacent to the path of flow of said stream for causing a flow of electrical energy in said circuit to operate the second mentioned means. 13. An apparatus for controlling the temperature of a continuous stream of molten glass by regulating the temperature of a glass furnace comprising means for producing a constantly flowing stream of molten glass from said furnace including a fluid burner, fluid supply regulating means, an electrical circuit, electrically operable means in said circuit for operating said regulating means, another electrical circuit including electrically operable means for causing a flow of electrical energy in said first mentioned circuit and means disposed adjacent to the path of said stream and responsive to variations in the temperature thereof to cause a flow of electrical energy in said second mentioned circuit to operate said regulating means. 14. An apparatus for controlling the temperature of a stream of molten glass by regulating the temperature of a glass furnace comprising means for producing a constantly flowing stream of molten glass from said furnace including a fluid burner, fluid supply regulating means, an electrical circuit, electrically operable means in said circuit for operating said regulating means, another electrical circuit including electrically operable means for causing a flow of electrical energy in said first mentioned circuit, an electric thermo-couple for causing a flow of electrical energy in said last named circuit, means for supporting said thermo-couple adjacent to the path of flow of said glass, and means for directing radiant energy radiated from 9, portion of said stream onto said thermo-couple whereby a flow of electrical energy in said last named circuit causes a flow of electrical energy in said first named circuit to operate said regulating means. 15. An apparatus for controlling the temperature of a stream of molten glass by regulating the temperature of a glass furnace, comprising a fluid burner, fluid supply regulating means, an electrical circuit, electrically operable means in said circuit for operating said regulating means, another electrical circuit including electrically operable means for causing a flow of electrical energy in said first mentioned circuit, an electric thermo-couple disposed adjacent to the path of flow of said stream, means for directing radiant energy from a portion of said stream onto said thermo-couple for causing a flow of electrical energy in said last named circuit, means for causing a stream of glass to flow from an orifice in said furnace and means responsive to temperature variations of said stream to cause electrical energy to flow in said last named circuit whereby electrical energy flows in said first named circuit to cause an operation of said regulating means. 16. An apparatus for controlling the temperature of a stream of molten glass by regulating the temperature of a glass furnace from which said stream flows comprising a fluid burner for heating said furnace, fluid supply regulating means, an electrical circuit, a movable member for controlling the flow of electrical energy in said circuit, electrically operable means in said circuit for operating said regulating means, means responsive to heat radiated from a portion of said stream and disposed adjacent to the path thereof for causing a movement of said member whereby electrical energy flows in said circuit to control said regulating means. ' 17. The method of controlling the temperature and cross sectional area of a stream of molten material which comprises supplying heat energy to said material, projecting on the target of a heat responsive instrument an image of said stream of less area than the area of the target, and in varying the heat energy supply to said material in accordance with variations in the temperature and area of the projected image. 18. The method of controlling the temperature of a stream of molten glass flowing from a furnace, comprising employing the heat radiated from a portion of said stream to vary the relationship between the segments of a resistance on either side of a sliding contact so that a circuit between said resistance and a potentiometer resistance, having a sliding contact the relative position of which is controlled by a reversible motor, and which has its ends connected to the ends of the balancing resistance and its sliding contact connected to that of the balancing resistance, causes relays to operate, when the temperature of the stream varies from normal, and energize said motor to adjust the intensity of said furnace, one way or the other, to restore the temperature of said glass to that desired for normal operation. ' 19. Apparatus for controlling the temperature of a stream of molten glass flowing from a furnace comprising a radiation pyrometer sighted on a portion of said stream, a galvanometer in circuit with said pyrometer, a balancing resistance, a shaft carrying means for varying the relationship between the segments on either side of a sliding contact, control mechanism for rotating the shaft one way or the other in accordance with the deflection of the galvanometer needle, a reversible motor, a burner for heating the glass in the furnace, a control valve for said burner, mechanism connecting said motor and control valve for regulating the intensity of the burner to adjust the temperature of the glass, 9. potentiometer resistance connected to the balancing resistance at its ends, a sliding contact for said resistance, a connection between said sliding contact and that of the balancing resistance, said potentiometer resistance being so connected to the motor that movement of the latter adjusts the relation between the segments of said resistance on either side of the sliding contact, relay means controlled by the relation between the segments at either side of the sliding contact of the balancing resistance, and a source of power so controlled by said relay means that when the temperature of the stream of molten glass varies one way or the other from normal, the sliding contact of the balancing resistance cuts out resistance at one side or the other and increases the resistance at the other side, thereby operating the relay means to cause the reversible motor to move in one direction or the other to adjust the temperature of the glass to that desired, said adjusting movement of the motor continuing until the sliding contact of the related potentiometer resistance reaches a point restoring the circuits between the potentiometer and balancing resistances to normal, and discontinuing the relay operation and energization of the motor. - V HENRY K. RICHARDSON

Classifications:

International (IPC 8-9): C03B5/24 (Advanced/Invention);

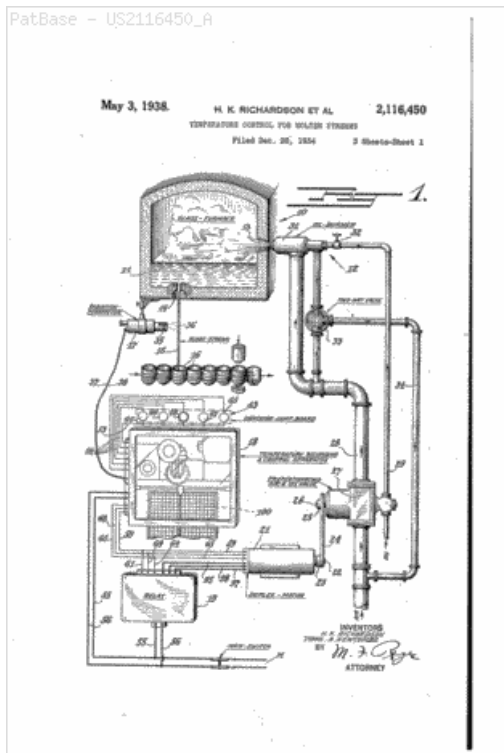
C03B5/00 (Core/Invention)

International (IPC 1-7): C03B7/08

CPC: C03B5/24 Y10S65/04

European: C03B5/24

US: 136/215 236/15BE 236/15R 236/70 374/121 65/126 65/162 65/DIG.4

**Family:**

Publication number	Publication date	Application number	Application date
US2116450 A	19380503	US19340759444	19341228

Priority:

US19340759444 19341228

Probable Assignee: WESTINGHOUSE ELECTRIC AND MFG CO**Assignee(s):** (std): WESTINGHOUSE ELECTRIC AND MFG CO**Assignee(s):** WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY**Inventor(s):** (std): NEWCOMBE FRANK A ; RICHARDSON HENRY K**4) Family number: 39426265 (DK63049C)**

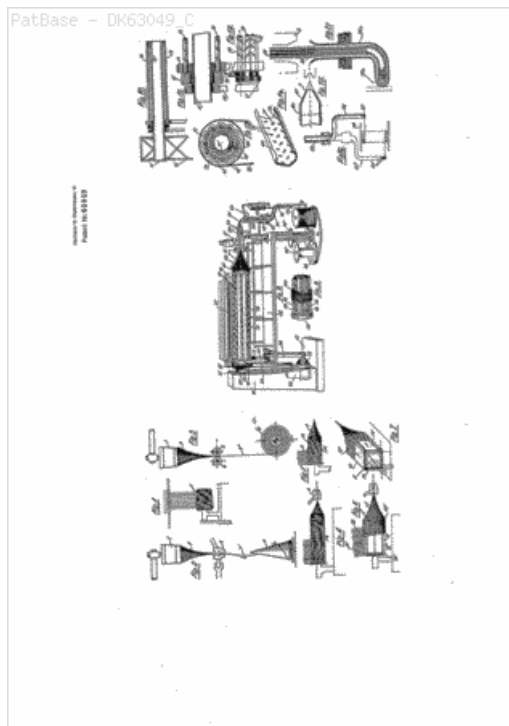
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Title: FREMGANGSMAADE OG APPARAT TIL FREMSTILLING AF GARN AF ENDELOESE GLASTRAADE ELLER LIGNENDE KUNSTIGT FREMSTILLEDE TRAADE. METHOD AND APPARATUS FOR THE PRODUCTION OF YARN OF CONTINUOUS GLASTRAADE OR SIMILAR ARTIFICIAL prepared wires. (Machine translation)

Abstract: Source: DK63049C [DA] [Source: Claim 1] 1. ning af Traaden uden Anvendelse af Opvik- lingsspoler. Under Traekningen af Filten til Garn kan der sporejtes en Vaedske ud over Overfladen af en Formekonus 41. Denne Vaedske kan eksem- pelvis vaere et elektrisk Isolationsmateriale. Hvis Materialet, som indfoeres gennem Roeret do, er et godt termisk Isolationsmateriale, er det muligt at beskytte Glasgarnet mod direkte Kontakt med Metallet. Blot maa man soerge for rigtigt Valg af Metalsort, Isolationsmateriale og Glasart og i Saerdeleshed under Hensyntagen til den Maengde Varme, som kan overfoeres fra det ene Materiale til det andet under Fremstil- lingsprocessen. Som det fremgaar af Fig. 18 og 19 kan Traadfilten af lej res ved begge Rotationsretnin- ger af Spindeorganet. Ved det i Fig. 17 viste Apparat til kon- tinuerlig Garnfremstilling kan man • indeslutte en Kaerne af passende Materiale i det indre af det roerformede Garn, blot det sker ved en Tem- peratur, som Glasstet kan modstaa, lige fra fly- dende Oploesninger til ved Opvarmning smeltet fast Materiale, uden at der kraeves komplice- rede Anlaeg. Man kan ogsaa indfoere en Metal- traad af f. Eks. Kobber eller Aluminium, som allerede er beklædt med Glas, idet den rulles af en Spole og traekkes gennem Injektoren og det roerformede Garn. Spindeorganerne anbringes saaledes, at de let kan loeftes ud af Roeret 46 til Undersoegelse af Spindeaabninger eller Tudene 48. Paa den beskrevne Maade kan man kon- tinuerligt fremstille Garn, der indeholder eet eller flere Lag forskellige Materialer, hvert tjenende sit saerlige Formaal. Saaledes kan man f. Eks. fremstille en Ledningstraad, der inde- holder en elektrisk Leder beklædt med f. Eks. Bakelit og et udvendigt Lag af Glastraade. Den beskrevne Fremgangsmaade med til- hoerende Apparat kan ogsaa anvendes i Forbin- delse med andre kunstige Traade end Glas- traade, naar blot de kan faas ved Anvendelse af et Spindeorgan, Anordningerne foran og bagved Injektoren i Fig. 8 kan ombyttes med de tilsvarende Anordninger i den i Fig. 17 vi- ste Installation. Patentkrav. i. Fremgangsmaade til Fremstilling af Garn af endeloese Glastraade eller lignende kun- stigt fremstillede Traade, kendetegnet ved, at de fra et Fremstillingssted kommende Traade til Dannelse af en roerformet Filt vikles kryds- vis paa den udvendige eller indvendige Side af et hensigtsmaessigt i den ene Ende indsnaevret Omdrejningslegeme og vinkelret paa dettes Akse, og at den fremkomne Vikling kontinuer- ligt traekkes af ved den ene af Legemets Ender ved Hjaelp af et mekanisk eller pneumatisk Traekmiddel, saa at der dannes et roerformet Garn af sammenflettede Traade, hvis enkelte Traade ved Af traekningen er underkastet et Traek hovedsagelig vinkelret paa deres oprin- delige Hovedretning, men som dog paa Grund af den krydsvise Opvikling mere eller mindre bibeholder deres regelmæssigt krydsede Stil- ling. **Machine translation:** [Source: Claim 1] 1. withdrawal of Traaden without the use of Opvik- ling coils. During the withdrawal of the baize to twine may be sprayed a Vaedske beyond the surface of a Form Cone 41. This Vaedske can eczema- pelvis be an electrical insulation material. If the material imported through the tube do, is a good thermal insulation material, it is possible to protect Glass Twine from direct contact with the metal. Only, we must arrange for true choice of metal Black, Insulation Material And Glasart and in particular taking into account the amount of heat, which can be transmitted from one material for the second during the style grinding process. As it appears from fig. 18 and 19 are Traadfilten of rent res by both Rotationsretnin- ger of spinning Body. By that in Fig. 17 showed apparatus for kon- tinuerlig yarn Manufacture can be • contain a Kaerne of suitable material in the interior of the tubular twine, just this is done by a Tem- peratur, as the glass can withstand, ranging from aircraft operating Solutions for by heating melted solid material without requiring komplice- already installations. You can also introduce a metal wire of F. For example. copper or aluminum, which is already coated with glass, since the roll of a coil and pull it through the injector and the tubular yarn. The spinning body must be placed in such a way that they can be easily lifted out of the tube 46 for the investigation of the spinning opening or Tudene 48. On the described method can be kon- tinuerligt produce yarn, containing one or more layers of different materials, each tjenende its special purpose. Can be F. For example. manufacture a lead wire that contains-

contains a electrical conductor sheathed with F. For example. Bakelit and an outer layer of glass threads. The described procedure with the associated equipment can also be used in Forbin- accession with other artificial threads than glass- wire, where only the can be obtained from the use of a spinning Body Devices in front of and behind the injector in Fig, 8 can be swapped with the corresponding devices in the in Fig. 17 we- Ste Installation. Patent requirements.. Procedure for the manufacture of Yarn of continuous glass threads or similar only- stigt manufactured Wire, characterized by the fact that they are from a manufacturing site wire coming to the formation of a tubular felt wraps cross- show on the external or internal side of an appropriate in the one end narrowed Revolution Body and perpendicular to the axis of the latter and that the resulting Winding continuous- strange drawn by at one of the ends of the body by means of a mechanical or pneumatic Pull means so that the formation of a tubular Yarn of merged wire, if individual wires at of the withdrawal is subject to a pull mainly perpendicular to their oprin- General Main direction, but which nevertheless because of the cross-display Opvikling more or less retain their regularly crossed Style ling.

Classifications:



Family:

Publication number	Publication date	Application number	Application date
DK63049 C	19441227	DK19390000766	19390321

Priority:

19380322

Probable Assignee: VETRERIA ITALIANA BALZ

Assignee(s): (std): ANONIMA VETRERIA ITALIANA BALZ ; VETRERIA ITALIANA BALZ

Assignee(s): SOCIETA ANONIMA VETRERIA ITALIANA BALZARETTI MODIG ; SOCIETA ANONIMA VETRERIA ITALIANA BALZARETTI MODIGLIANI

5) Family number: 19368074 (GB636540A)

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Title: Improvements in and relating to methods of transforming glass batches into refined glass

Abstract: Source: GB636540A [EN] [Class 56] In the manufacture of refined glass, raw batch is first converted into a product of uniform structure by pre-heating to at least 250 C. and then heating by a high frequency electric field to a temperature at which the endothermic reactions between the ingredients are complete; this product is then melted and refined. As shown, batch material is carried by a screw conveyer C from a hopper A through a heat-insulated duct B (where its temperature is raised to 250 C. by a resistance E) to a distributor D supplying moulds G whose separable walls, e.g. of silica, fritted corundum or magnesium silicate, have a low coefficient of dielectric loss and whose two opposite sides carry electrodes connected to a source of highfrequency voltage whereby the batch material is uniformly and rapidly heated until the endothermic reactions are complete (e.g. at about 1000 C. for a soda-lime-silica batch). A heat insulating support I, with the 'mould bottom, is then removed, the sides are separated and the block of aggregated material passes through a channel K to a glass furnace, preferably heated by passage of current through the glass, where it melts sufficiently rapidly on contact with the molten bath to allow convection alone to be relied upon for refining. A number of the above devices may successively feed a single furnace. The inner mould surfaces may be sprayed with a powdered mixture of alumina, Kieselguhr and graphite to prevent adhesion.

Classifications:

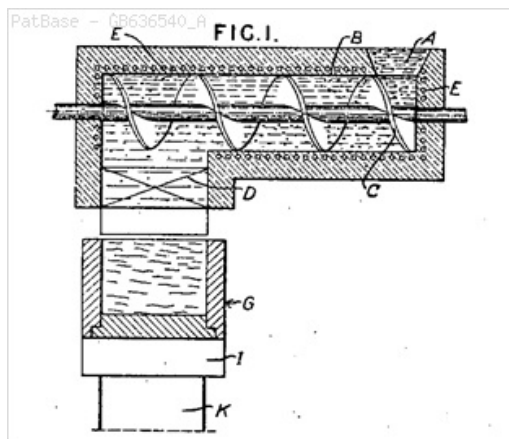
International (IPC 8-9): C03B19/09 C03B3/02 C03B5/02 C03B5/225 F22G7/06 H03G3/26 (Advanced/Invention);

C03B19/00 C03B3/00 C03B5/00 F22G7/00 H03G3/22 (Core/Invention)

International (IPC 1-7): C03B5/02 C03B5/22 C03B5/225

CPC: C03B3/02 C03B5/02 C03B5/021 C03B5/225 C03B19/09 H03G3/26 F22G7/065

European: C03B19/09 C03B3/02 C03B5/02 C03B5/02B C03B5/225 F22G7/06L H03G3/26



Family:

Publication number	Publication date	Application number	Application date
BE473529 A	00000000		00000000
CH267341 A	19500331		19470602
FR54834 E	19500802		00000000
FR54835 E	19500802		19461023
FR55066 E	19510606		00000000
FR928510 A	19471201		19460601
GB636540 A	19500503	GB19470000672	19470108

Priority:

19461023

Probable Assignee: ROBERT GALLOIS

Assignee(s): (std): GALLOIS ROBERT EMILE ; ROBERT GALLOIS ; THOMSON HOUSTON COMP FRANCAISE

Assignee(s): COMPAGNIE FRANCAISE THOMSON HOUSTON ; FRANCAISE THOMSON HOUSTON COMP

Inventor(s): (std): BECQ JULES LUCIEN ; GALLOIS ROBERT ; ROBERT EMILE GALLOIS

Inventor(s): GALLOIS ROBERT EMILE

6) Family number: 22667804 (US2585607A)

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Title: GLASS FURNACE CHARGING

Abstract: Source: US2585607A [EN] (Claim 1) 1. Apparatus for maintaining the liquid level in a furnace comprising means for charging said furnace, a circuit, including a relay armature to form a power supply to said charging means, means for controlling the time during which said charging means acts, comprising a pair of spaced electrodes in said furnace, one of which is submerged in, and the other disposed at a higher elevation so that it alternately touches the top surface of, and breaks contact with the contained liquid during furnace operation, said other electrode comprising a hollow metal element having a frustoconical lower portion, the sides of which are provided with notches, a platinum cap over the lower electrode surface with edge portions crimped in said notches, means for introducing and withdrawing cooling liquid with respect to said electrode, a powered electrical circuit including said electrodes and a resistor in series with some of the furnace-contained liquid therebetween, a grid-containing control tube, having a plate circuit, whose grid is biased by a connection with said resistor so that its conductivity is affected by the variation in the current flow in said electrode circuit and a solenoid in the plate circuit of said tube for controlling said armature, whereby said solenoid is energized to raise its armature and open the power supply circuit to said charging means, only when the higher electrode is engaged by the liquid, and said charging means thus operates only when material is needed to bring the liquid level up to contact said electrode.

Classifications:

International (IPC 8-9): C03B3/00 C03B5/24

G05D9/12 (Advanced/Invention);

C03B3/00 C03B5/00 G05D9/00 (Core/Invention)

International (IPC 1-7): C03B3/00 C03B5/24

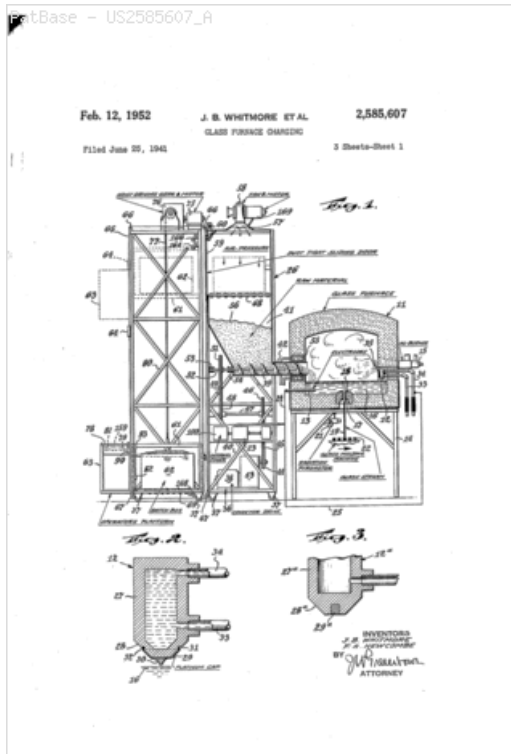
CPC: Y10S65/04 C03B5/245 C03B3/00 G05D9/12 Y10T74/2102

European: C03B3/00 C03B5/24 C03B5/24B G05D9/12

US: 200/19.21 315/349 318/443 318/482 340/620 361/178 373/27

373/33 373/36 414/161 414/165 414/173 414/190 65/335 65/DIG.4

73/302 74/568R

**Family:**

Publication number	Publication date	Application number	Application date
US2585607 A	19520212	US19410399652	19410625

Priority:

US19410399652 19410625

Probable Assignee:

WESTINGHOUSE ELECTRIC CORP

Assignee(s): (std):

WESTINGHOUSE ELECTRIC CORP

Inventor(s): (std):

NEWCOMBE FRANK A ; WHITMORE JAMES B

7) Family number: 22363848 (US2910200A)

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Title: Method for blanket charging glass batch in a glass furnace

Abstract: Source: US2910200A [EN] (Claim 1) I claim: i. The method of batch feeding an open, top glass furnace comprising reciprocally moving a batch feeding hopper over the top of said furnace along one dimension of the furnace, controlling the batch feeding rate of said hopper as a function of the furnace demand throughout one direction of movement of the hopper relative to the furnace, and increasing the batch feeding rate above that corresponding to furnace demand for a portion of the movement of the hopper in the other direction relative to the furnace.

Classifications:

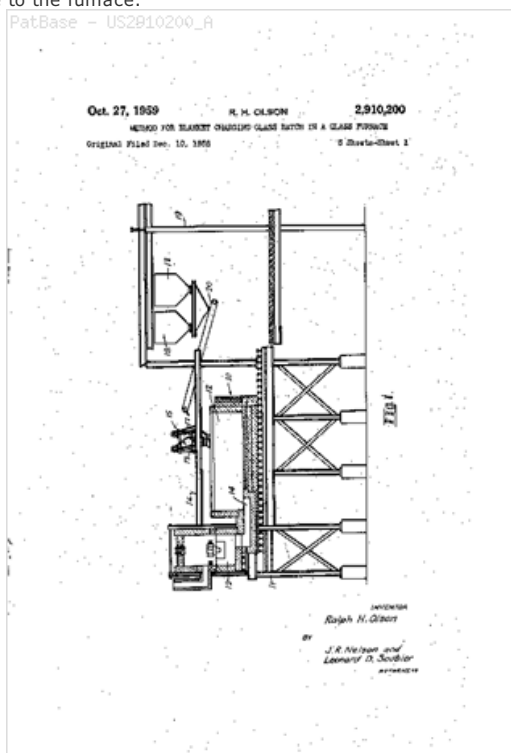
International (IPC 8-9): C03B3/00 C03B5/24 (Advanced/Invention);
C03B3/00 C03B5/00 (Core/Invention)

International (IPC 1-7): C03B3/00 C03B5/24

CPC: C03B3/00 C03B5/245

European: C03B3/00 C03B5/24 C03B5/24B

US: 414/161 414/804



Family:

Publication number	Publication date	Application number	Application date
US2910195 A	19591027	US19560627354	19561210
US2910200 A	19591027	US19570690338	19571015

Priority:

US19560627354 19561210 US19570690338 19571015

Probable Assignee: OWENS ILLINOIS GLASS CO

Assignee(s): (std): OWENS ILLINOIS GLASS CO

Assignee(s): OWENS ILLINOIS GLASS COMPANY

Inventor(s): (std): OLSON RALPH H

8) Family number: 22363838 (US2910196A)

© PatBase

Title: APPARATUS FOR BLANKET CHARGING GLASS BATCH IN A GLASS FURNACE

Abstract: Source: US2910196A [EN] (Claim 1) 1. In a batch feeder system for a glass furnace having a hopper extending across the top of said furnace, and including means at the bottom of said hopper defining an elongated discharge opening extending across one dimension of said furnace, means mounting said hopper for movement along the other dimension of said furnace, a plurality of movable discharge assistants cooperating with said discharge opening to control the feed of batch therethrough, the combination therewith of: motor driven means for moving said hopper longitudinally along the top of the furnace, said means including an electric drive motor, a variable speed electric drive motor operatively connected to actuate said discharge assistants, and motor control means in circuit with both electric drive motors for simultaneously energizing them responsive to demands of the furnace for batch, said last-mentioned means comprising an electrically operated glass level gauge operatively connected to detect the glass level in the furnace forehearth, a normally open circuit-closing device in circuit with each power circuit for said motors, and electro-responsive means in circuit with the glass level gauge and actuatable responsive to furnace glass levels detected by said gauge that are below predetermined normal operating levels to close said circuit closing device, thereby energizing both said drive motors simultaneously.

Classifications:

International (IPC 8-9): C03B3/00 C03B5/24 (Advanced/Invention);

C03B3/00 C03B5/00 (Core/Invention)

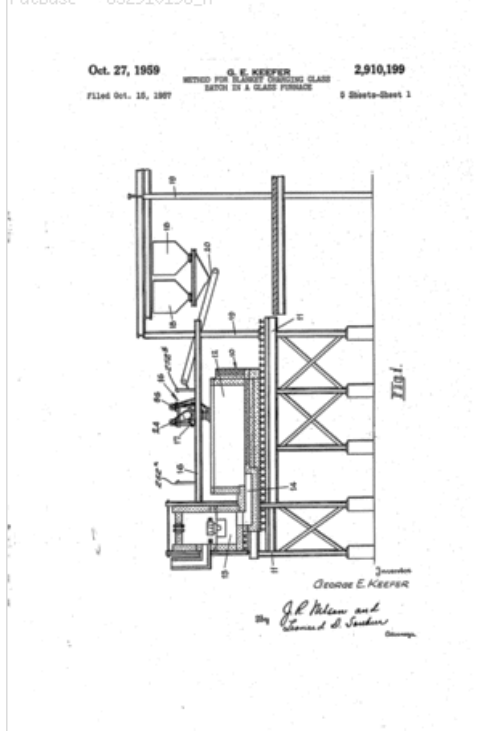
International (IPC 1-7): C03B3/00 C03B5/24

CPC: C03B3/00 C03B5/245

European: C03B3/00 C03B5/24 C03B5/24B

US: 414/161 414/165 414/804

PatBase - US2910196_A

**Family:**

Publication number	Publication date	Application number	Application date
US2910196 A	19591027	US19580763320	19580925
US2910199 A	19591027	US19570690252	19571015

Priority:

US19570690252 19571015 US19580763320 19580925

Probable Assignee: OWENS ILLINOIS GLASS CO

Assignee(s): (std): OWENS ILLINOIS GLASS CO

Assignee(s): OWENS ILLINOIS GLASS COMPANY

Inventor(s): (std): KEEFER GEORGE E

9) Family number: 22363761 (US2910194A)

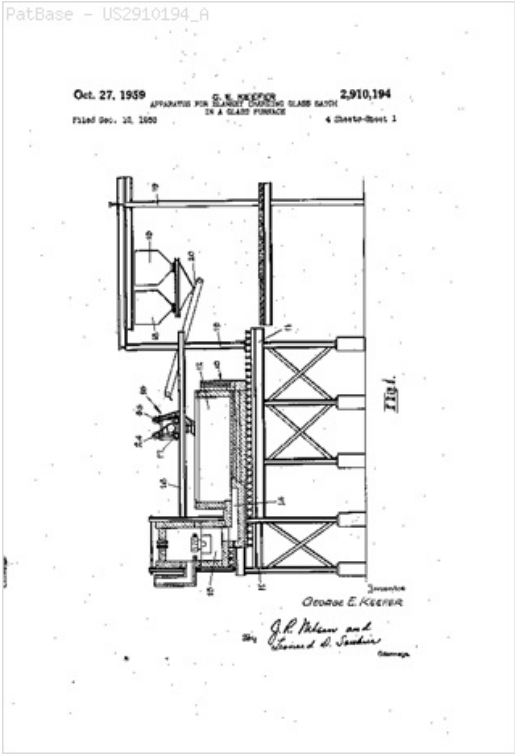
© PatBase

Title: APPARATUS FOR BLANKET CHARGING GLASS BATCH IN A GLASS FURNACE

Abstract: Source: US2910194A [EN] (Claim 1) 1. A batch feeder for blanket charging an open-top glass furnace with raw glass batch material comprising a hopper extending across one horizontal dimension of said furnace, means for moving said hopper along the other horizontal dimension of said furnace, means at the bottom of said hopper defining an elongated

discharge opening extending transversely across said one horizontal dimension of said furnace and adapted to support batch material supplied to it by gravity from said hopper, means in said hopper and operable for uniformly distributing batch longitudinally of said hopper, a plurality of shiftable batch feeding elements mounted in side-by-side relationship along said discharge opening and cooperable with said discharge opening to eject How of batch therethrough, means for individually controlling fthe movements of said batch feeding elements, thereby permitting variation in the Bow of the batch through the discharge opening as between the batch feeding elements to provide a nonuniform feeding rate throughout said one horizontal dimension of said furnace, and means for collectively controlling the rate of movements of said batch feeding elements.

Classifications:
International (IPC 8-9): C03B3/00 (Advanced/Invention);
C03B3/00 (Core/Invention)
International (IPC 1-7): C03B3/00
CPC: C03B3/00
European: C03B3/00
US: 414/165 414/187 414/188



Family:

Publication number	Publication date	Application number	Application date
US2910194 A	19591027	US19560627353	19561210

Priority:
US19560627353 19561210
Probable Assignee: OWENS ILLINOIS GLASS CO
Assignee(s): (std): OWENS ILLINOIS GLASS CO
Assignee(s): OWENS ILLINOIS GLASS COMPANY
Inventor(s): (std): KEEFER GEORGE E

10) Family number: 20555482 (US2926458A) © PatBase

Title: COLORED GLASS FRIT FEEDER

Abstract: Source: GB857904A [EN] 857,904. Hopper discharge. OWENSILLINOIS GLASS CO. July 15, 1959, No. 24260/59. Class 78(1). [Also in Group XXIII] Apparatus for feeding frit to the surface of molten glass flowing through a forehearth includes a supply hopper for gravity feeding the frit to a transverse conveyer having a discharge outlet overlying the molten glass, the frit falling on to the surface of the molten glass through an enclosed hood containing interior baffles. In one form the frit falls from a hopper, through an adjustable gate into the conduit 23 containing a screw conveyer 18 which discharges it through an opening 31 into a hood having sloping side walls 33 but parallel end walls. A number of shafts 37 pass through the hoodcarrying baffles 35. Each shaft 37 carries at its end outside the hood, an arm 38 with a screw 39, moving in a slot in a bar 41, by which the shaft and the baffle may be clamped in a position of adjustment. The baffles 35 do not extend the full width of the hood but occupy a central zone defined by intermediate walls parallel to the end walls, A cooling air blast is directed through this central zone through a pipe 55 and also, through other pipes, not shown, through the zones between the intermediate walls and the end walls. The tapered hood ends in a chamber of rectangular section 45 through which pass pipes 46 having a further baffling action. The pipes connect tanks at either side of the chamber and cooling water is circulated through pipes 52, 53. The whole unit is mounted on levelling- screws 49 on refractory blocks 47 forming the walls of the channel in the forehearth through which the molten glass runs.

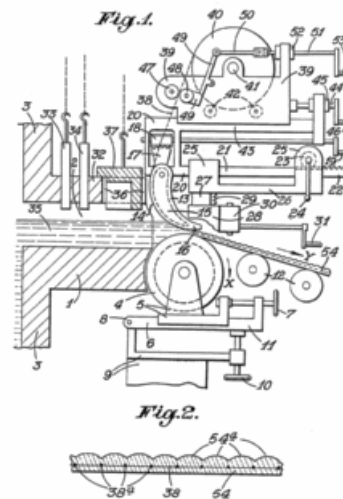
Classifications:
International (IPC 8-9): C03B3/00 C03B5/173 (Advanced/Invention);
C03B3/00 C03B5/00 (Core/Invention)
International (IPC 1-7): C03B3/00 C03B5/16
CPC: C03B3/00 C03B5/173
European: C03B3/00 C03B5/173
US: 266/216 414/165 432/100 65/146 65/356

Publication number	Publication date	Application number	Application date
FR1231575 A	19600930	FR19590801927	19590804
GB857904 A	19610104	GB19590024260	19590715
US2926458 A	19600301	US19550552869	19551213

FR19590801927 19590804 GB19590024260 19590715 US19550552869 19551213

Inventor(s): (std): LAUCK ALBERT G ; LAUCK ALBERT GEORGE

European: C03B13/12

**Family:**

Publication number	Publication date	Application number	Application date
CH359249 A	19611231		19590806

Priority:

19580822

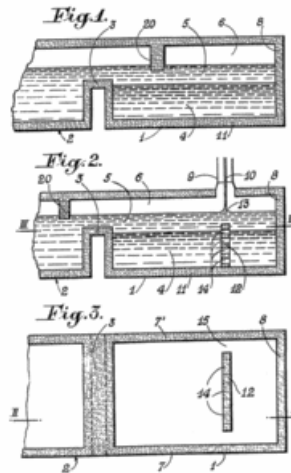
Probable Assignee: GLACERIES DE LA SAMBRE SOC**Assignee(s):** (std): GLACERIES DE LA SAMBRE SOC ; GLACERIES DE LA SAMBRE SOCIETE**Assignee(s):** LES GLACERIES DE LA SAMBRE SOC ANONYME ; LES GLACERIES DE LA SAMBRE SOCIETE ANONYME**Inventor(s):** (std): ADOLPHE MOLS**Inventor(s):** MOLS ADOLPHE**12) Family number: 40442640 (AT233754B)**

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Title: VERFAHREN UND VORRICHTUNG ZUR THERMISCHEN KONDITIONIERUNG VON GESCHMOLZENEM GLAS PROCESS AND APPARATUS FOR THERMAL CONDITIONING OF MOLTEN GLASS (Machine translation)

Abstract: Source: AT233754B [DE] [Source: Claim 1] 2. Verfahren nach Anspruch 1, dadurch gekennzeichnet, dass das Bad thermisch durch eine Konvektionsströmung in eine Umwälzbewegung versetzt wird, wobei die Konvektionsströmung im geschmolzenen Material des Bades durch Einregeln bestimmter Temperaturgefälle zwischen entsprechenden Zonen des Bades erzeugt wird. **Machine translation:** [Source: claim 1] 2. process according to claim 1, characterised in that the bath thermal will be offset by a convection current in a circulating movement, where the convection current in the molten material of bath is generated by a rules of certain temperature gradient between the corresponding areas of the bath.

Classifications:

**Family:**

Publication number	Publication date	Application number	Application date
AT233754 B	19640525	AT19610003889	19610517

Priority:

19600628

Probable Assignee:

BRICHARD EDGARD

Assignee(s): (std):

BRICHARD EDGARD

Assignee(s):

EDGARD BRICHARD

Inventor(s): (std):

BRICHARD EDGARD

Inventor(s):

EDGARD BRICHARD

13) Family number: 29574852 (US3457058A)

© PatBase

Title: APPARATUS FOR MANUFACTURE OF FLAT WIRE GLASS**Abstract:** Source: US3457058A [EN] ABSTRACT OF THE DISCLOSURE

Apparatus and method for continuously forming sheet glass in ribbon form, in particular reinforced sheet glass. The molten glass is formed into an incipient ribbon by and between a lower roller and the lip of an upper transom over and spaced from the contiguous element of the roller. It is then immediately smoothed by and between the aforesaid lower roller and a second or upper roller spaced therefrom and downstream of the transom. Where reinforcement is to be introduced it is drawn downwardly between the transom and the upper roller, and passes about and in contact with a guide bar located between the transom and second roller, and closely adjacent the second roller. This guide bar determines the depth of penetration of the reinforcement into the glass. The transom may be made in separate discrete sections aligned transversely across the ribbon throughout the width thereof. Each section may be individually adjusted vertically and horizontally to assure uniform thickness of the ribbon transversely thereacross. Means are provided to heat the transom, whether in one piece or in sections. The lower surface of the ribbon is cooled by the lower roller to impart a degree of rigidity thereto. The upper surface however, remains substantially at the temperature of the melting tank, until the reinforcement has been introduced. The lower roller effects the dual functions of assisting in formation of the ribbon and in smoothing it to final form in cooperation with the upper roller. The upper roller may be replaced without interrupting continuity of production. This application is a continuation of our prior copending application Ser. No. 396,666, filed Sept. 15, 1964, now abandoned.

Classifications:

International (IPC 8-9): C03B13/12 (Advanced/Invention);
 C03B13/00 (Core/Invention)

International (IPC 1-7): C03B13/04 C03B13/12 C03C27/08

CPC: C03B13/12

European: C03B13/12

US: 65/148 65/185 65/324 65/94

July 22, 1969 R. BOURGGRAFF ET AL. 3,457,058
 APPARATUS FOR MANUFACTURE OF PLAT WEBB GLASS
 Original Filed Sept. 15, 1964 Sheet 1 of 1

Fig. 1

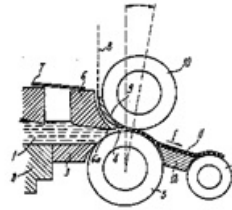


Fig. 2



Inventors
 Robert Bourggraff
 Georg Hainke
 By Louis and Associates, Attorneys

Family:

Publication number	Publication date	Application number	Application date
AT249902 B	19661010	AT19640007884	19640914
AT251794 B	19670125	AT19640007883	19640914
BE653126 A	19650315	BE19640653126	19640915
BE653127 A	19650315	BE19640653127	19640915
DE1496432 A1	19690403	DE19641496432	19640917
DE1496432 B2	19691009	DE19641496432	19640917
ES304108 A1	19650516	ES19640304108	19640916
ES304109 A1	19650516	ES19640304109	19640916
FR1386254 A	19650122	FR19630947733	19630917
GB1078669 A	19670809	GB19640038031	19640917
GB1078670 A	19670809	GB19640038032	19640917
LU46949 A	19650315	LU19640046949	19640915
LU46968 A	19650317	LU19640046968	19640917
NL142927 B	19740815	NL19640010719	19640915
NL148017 B	19751215	NL19640010745	19640915
NL6410719 A	19650318	NL19640010719	19640915
NL6410745 A	19650318	NL19640010745	19640915
US3457058 A	19690722	US19680695807	19680104

Priority:

FR19630947733 19630917 FR19630947733 19630917

Probable Assignee: SAINT GOBAIN

Assignee(s): (std): CIE DE SAINT GOBAIN ; SAINT GOBAIN

Assignee(s): SAINT GOBAIN CIE DE ; COMPAGNIE DE SAINT GOBAIN ; COMPAGNIE DE SAINT GOBAIN SOCIETE ANONYME NEUILLY ; COMPAGNIE DE SAINT GOBAIN SOCIETE ANONYME NEUILLY SUR SEINE FRANKRIJK ; DE SAINT GOBAIN COMP

Inventor(s): (std): ROBERT BOURGGRAFF DR ING ; HAINKE GEORG ; BOURGGRAFF ROBERT

Inventor(s): GEORG HAINKE ; ROBERT BOURGGRAFF

14) Family number: 49882 (US3554725A)

© PatBase

Title: PATTERNED GLASS SHEET APPARATUS

Abstract: Source: GB1139469A [EN] 1,139,469. Rolling patterned glass sheets. LIBBEY-OWENS-FORD GLASS CO. 24 June, 1966 [24 June, 1965], No. 28382/66. Heading C1M. To form a continuous ribbon of glass having a pattern on at least one surface, molten glass 15 is flowed from a conventional tank type furnace along a substantially horizontal channel 25 to the pass between a pair of counter-rotating forming rolls 26, 27, one at least of which is formed with a pattern to be imparted to the glass ribbon, and the newly formed ribbon is substantially continuously supported by an inclined bed 50 while gradually cooled until it has set sufficiently for movement horizontally through an annealing lehr. The bed 50 includes water cooled trays 52 adjacent the lower roll 27, the upper surface being of porous fibrous metal, then alternating rolls 58 and supports 59 carried by a frame 60, pivotally mounted on a support 61 and vertically adjustable by mechanism 62. The rolls 58 may be of water cooled steel or chrome plated brass, when cooling is unnecessary. The supports 59 are of steel with overlay of graphite if desired. If pattern is on top of ribbon, as 69, a graphite wearing block 71 is positioned over the trays 52.

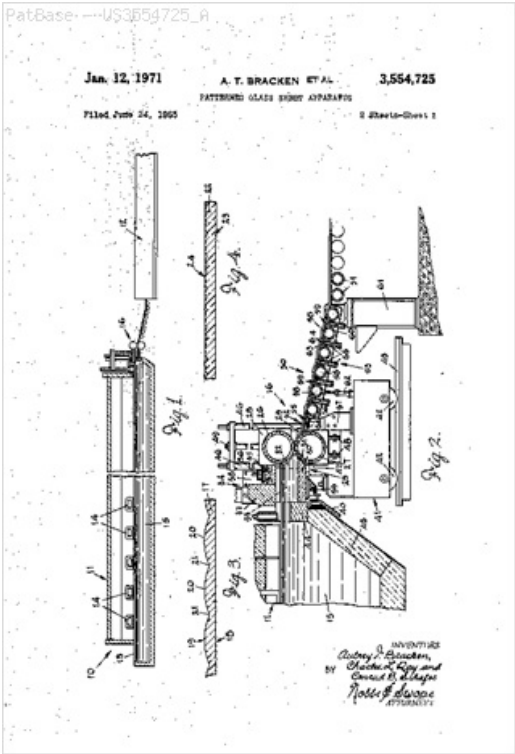
Classifications:

International (IPC 8-9): C03B13/08 (Advanced/Invention); C03B13/00 (Core/Invention)

International (IPC 1-7): C03B13/08 C03B5/32

CPC: C03B13/08

European: C03B13/08



Family:

Publication number	Publication date	Application number	Application date
BE682975 A	19661222		19660622
DE1596493 A1	19710211	DE19661596493	19660623
ES328330 A1	19670401	ES19660328330	19660623
GB1139469 A	19690108	GB19660028382	19660624
US3554725 A	19710112	US19650466560	19650624

Priority:

US19650466560 19650624

Probable Assignee: LOF GLASS INC

Assignee(s): (std): LIBBEY OWENS FORD CO ; LIBBEY OWENS FORD GLASS CO

Assignee(s): LIBBEY OWENS FORD GLASS COMPANY ; LOF GLASS INC

Inventor(s): (std): THOMAS BRACKEN AUBREY ; SCHAFFER CONRAD B ; RAY CHARLES L ; LOWMAN RAY CHARLES ; BRACKEN AUBREY T ; BALTHASAR SCHAFFER CONRAD

Inventor(s): AUBREY T BRACKEN ; CONRAD B SCHAFFER ; CHARLES L RAY

15) Family number: 894467 (US3486876A) © PatBase

Title: COMPOSITE TWEEL FOR CHAMBER UTILIZED IN THE MANUFACTURE OF FLOAT GLASS

Abstract: Source: US3486876A [EN] ABSTRACT OF THE DISCLOSURE

A chamber containing a molten bath upon which 15 molten glass is poured in order to produce glass by the "float process" is connected to a glass melting furnace by a forehearth and a spout. A tweel is movably mounted in the forehearth to regulate the flow of glass to the chamber. The upper portion of the tweel, which is generally positioned outside of the forehearth, has insulated sides so as to reduce thermally induced, stress cracking of the tweel. The lower portion of the tweel is made from a refractory material resistant to corrosion and to erosion by molten glass, while the upper portion is made from a 25 refractory material resistant to thermal shock B

Classifications:

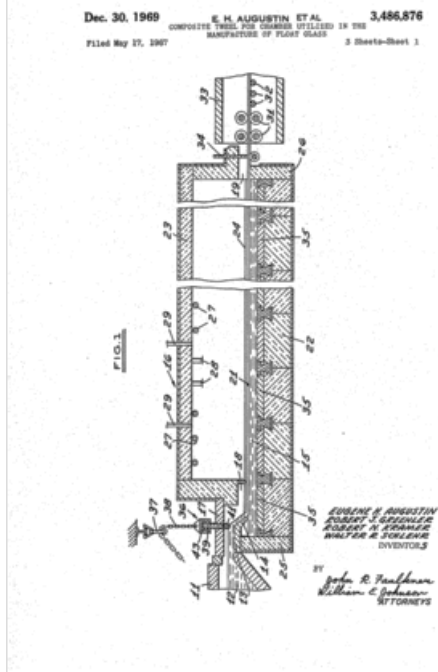
International (IPC 8-9): C03B18/04 C03B5/26 (Advanced/Invention); C03B18/00 C03B5/00 (Core/Invention)

International (IPC 1-7): C03B18/04 C03B5/26 C03B5/30

CPC: C03B5/267 C03B18/04

European: C03B18/04 C03B5/26 C03B5/26F2

US: 65/172 65/182.1 65/345 65/374.13 65/65 65/99.2

**Family:**

Publication number	Publication date	Application number	Application date
US3486876 A	19691230	US19670639230	19670517

Priority:

US19670639230 19670517

Probable Assignee: FORD MOTOR CO**Assignee(s):** (std): FORD MOTOR CO**Inventor(s):** (std): GREENLER ROBERT J ; KRAMER ROBERT N ; AUGUSTIN EUGENE H ; SCHLEHR WALTER R**Inventor(s):** WALTER R SCHLEHR ; EUGENE H AUGUSTIN ; ROBERT J GREENLER ; ROBERT N KRAMER**16) Family number: 1157361** (US3897235A)

© PatBase

Title: Glass batch wetting system

Abstract: Source: US3897235A [EN] A glass batch wetting system for controlling dust pollution in the atmosphere. Glass batch is uniformly wetted immediately prior to its introduction into a glass melting furnace by a hollow fluid dispensing rotating shaft. The shaft is positioned directly within the flow of batch as it moves from a charge hopper to the furnace opening. The rotation of the shaft and amount of fluid addition are varied with the mass flow rate of glass batch into the furnace.

Classifications:

International (IPC 8-9): B01F7/02 C03B3/00 (Advanced/Invention);
 B01F15/00 B01F15/04 B01F3/12 (Advanced/Non-invention)

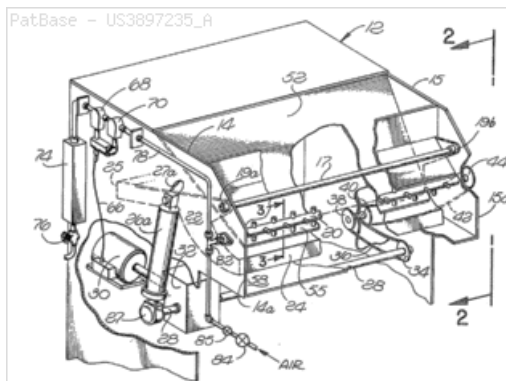
International (IPC 1-7): C03B3/00

CPC: B01F7/024 B01F15/00123 B01F15/00155 B01F15/0254
 B01F15/0286 B01F15/04 B01F2003/1257 C03B3/00

European: B01F15/00K1D B01F15/02B40R B01F15/02C40H
 B01F7/02B2 C03B3/00 L01F15/00K L01F15/04 L01F3/12H

US: 65/160 65/161 65/27 65/335

PatBase - US3897235_A

**Family:**

Publication number	Publication date	Application number	Application date
US3897235 A	19750729	US19740466334	19740502

Priority:

US19740466334 19740502

Probable Assignee: DART IND INC**Assignee(s):** (std): DART IND INC**Assignee(s):** DART INDUSTRIES INC ; DIAMOND THATCHER INC ; THATCHER GLASS A CORP OF DE CORP ; THATCHER GLASS CORP**Inventor(s):** (std): WILSON BOB G

Title: GLASS BATCH WETTING AND MIXING APPARATUS

Abstract: Source: US4172712A [EN] An apparatus for automatically wetting and mixing glass batch immediately prior to its introduction into a glass melting furnace. This apparatus is an axillary extension of a typical glass furnace charger hopper and provides for complete glass batch wetting and mixing immediately adjacent the glass melting furnace so as to minimize the possibility of batch "dryout" and similarly thereby minimize atmospheric dust pollution and other associated problems. Mixing action is continuous and the apparatus is arranged such that a fluid, normally water, is added to and mixed with the batch responsive to charger operation. The apparatus is structured in such fashion to emphasize mixing rather than material conveyance, thus reducing wear upon the structural elements while at the same time providing complete and uniform wetting of the batch within same.

Classifications:**International (IPC 8-9):** B01F7/02 B01F7/04 C03B1/00

C03B3/00 (Advanced/Invention);

B01F15/04 B01F3/12 B01F7/00 (Advanced/Non-invention);

B01F7/02 C03B1/00 C03B3/00 (Core/Invention);

B01F15/04 B01F3/12 B01F7/00 (Core/Non-invention)

International (IPC 1-7): C03B3/00**CPC:** B01F7/00141 B01F7/00975 B01F7/02 B01F7/022 B01F7/041

B01F15/00155 B01F15/0254 B01F15/0286 B01F15/04

B01F2003/1257 C03B1/00 C03B3/00 B01F7/00133

European: B01F15/00K1D B01F15/02B40R B01F15/02C40H

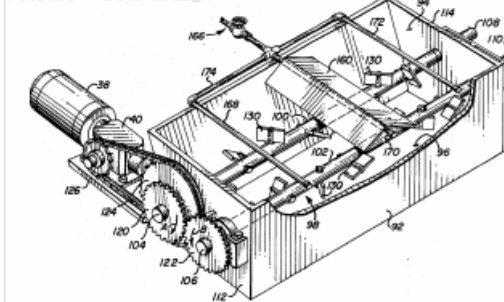
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L01F7/00B12B4 L01F7/00P4B L01F7/00Y2K4 L01F7/00Y8K10

L01F7/02

US: 366/301 501/27 65/161 65/27 65/335

PatBase - US4172712_A

**Family:**

Publication number	Publication date	Application number	Application date
US4172712 A	19791030	US19770808049	19770620

Priority:

US19760687958 19760519 US19770808049 19770620

Probable Assignee: DART IND INC**Assignee(s):** (std): DART IND INC**Assignee(s):** DART INDUSTRIES INC ; DIAMOND THATCHER INC ; THATCHER GLASS A CORP OF DE CORP ; THATCHER GLASS CORP**Inventor(s):** (std): HELLER ARTHUR D**Title:** Process for the production of layered glass batch pellets

Abstract: Source: US4293324A [EN] Layered glass batch pellets are produced in a continuous process which comprises the steps of: (a) maintaining in the pelletizing zone of a rotary apparatus a moving bed of recycle pellets, (b) feeding sand and particles of a calcium oxide source into the pelletizing zone, (c) feeding a solution of sodium hydroxide into the pelletizing zone, the recycle pellets being coated with a layer comprised of the solution of sodium hydroxide, the sand and the calcium oxide source and forming layered pellets, (d) passing the layered pellets into a heated drying zone exposed to an atmosphere containing carbon dioxide gas, (e) lifting the layered pellets to the upper part of the drying zone and releasing the layered pellets to separately fall through the drying zone, (f) simultaneously absorbing carbon dioxide onto the layered pellets while evaporating and removing water from the falling layered pellets to form dried layered pellets, the dried layered pellets having a residual moisture content of less than 15 percent by weight, (g) passing the dried layered pellets from the drying zone to a recycle zone, (h) recycling a portion of the dried layered pellets to the pelletizing zone as recycle pellets, and (i) recovering a portion of the dried layered pellets from the recycle zone as glass batch pellets. The novel layered pellets are of a homogeneous composition in which the segregation of components such as Na₂O is minimized.

Classifications:**International (IPC 8-9):** B01J2/12 B32B17/00 C03B1/00 C03B1/02

C03B19/10 C03C1/00 C03C1/02 C03C17/25 (Advanced/Invention);

B01J2/12 B32B17/00 C03B1/00 C03B19/00

C03C1/00 (Core/Invention)

International (IPC 1-7): B01J2/12 B32B1/00 B32B17/00 C03B1/00

C03B19/10 C03B3/00 C03B5/14 C03C1/00 C03C1/02 C03C17/25

C03C3/04 F26B17/14 F26B3/14 F26B9/06

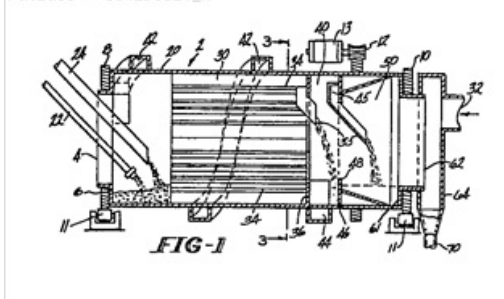
CPC: B01J2/12 C03B1/02 C03C1/026**European:** B01J2/12 C03B1/02 C03C1/02F**US:** 222/276 264/113 264/114 264/117 34/167 34/168 34/170

34/172 34/178 34/232 34/33 34/506 414/147 414/216 414/288

501/29 501/31 501/70 501/72 65/134.6 65/134.7 65/136.1 65/136.3

65/27

PatBase - US4293324_A

**Family:**

Publication number	Publication date	Application number	Application date
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BR8106188 A	19830412	BR19810006188	19810928
CA1164282 A1	19840327	CA19810370669	19810211
DE3170676 D1	19850704	DE19813170676	19810220
EP0034934 A2	19810902	EP19810300732	19810220
EP0034934 A3	19811230	EP19810300732	19810220
EP0034934 B1	19850529	EP19810300732	19810220
JP56149331 A2	19811119	JP19810024189	19810220
JP57145035 A2	19820907	JP19810134799	19810827
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KR830002075 B1	19831011	KR19810000567	19810220
KR830005059 A	19830723	KR19810000567	19810220
KR830007447 A	19831021	KR19810004278	19811109
KR890000723 B1	19890330	KR19810004278	19811109
MX155169 A	19880201	MX19810186094	19810223
US4293324 A	19811006	US19800123153	19800221
US4349366 A	19820914	US19810244457	19810316
US4354864 A	19821019	US19810238256	19810225
US4418153 A	19831129	US19820402505	19820728
US4455762 A	19840626	US19820373460	19820430
US4458428 A	19840710	US19820373459	19820430
ZA8101052 A	19820331	ZA19810001052	19810217

Priority:

CA19810370669 19810211 CA19810370669 19810805 US19810244457 19810316
US19800123153 19800221 US19810238256 19810225 US19810238256 19810221
US19820373460 19820430 US19820373459 19820430 US19820402505 19820728

Probable Assignee: OLIN CORP

Assignee(s): (std): OLIN CORP ; OLIN MATHIESON

Assignee(s): OLIN MATHIESON CHEM CORP ; SAEMAN WALTER C ; OLIN A CORP OF VA CORP

Inventor(s): (std): SAEMAN WALTER C ; SAEMAN WALTER CARL ; WALTER CARL SAEMAN ; UORUTAA KAARU SHIMAN ; SEAMAN W ; SAEMAN W ; UORUTAA KAARU SAEMAN

Agent(s): OSLER HOSKIN AND HARCOURT LLP

Designated states: BE DE FR GB NL SE

19) Family number: 1428588 (US4330315A)

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Title: Method and apparatus for preheating pulverous materials prior to their introduction into a melting furnace

Abstract: Source: US4330315A [EN] The present invention relates to method and apparatus for improving the preheating of pulverous materials, their introduction into melting furnaces, and their melting therein, with application to the recycling of some of the vitrifiable starting materials delivered to a tank furnace for glass making through a heat exchanger to raise its entry level temperature.

Classifications:

International (IPC 8-9): C03B3/02 C03B5/00 C03B5/237 F27D13/00 F28D7/16 (Advanced/Invention);

F27D13/00 (Advanced/Non-invention);

C03B3/00 C03B5/00 F27D13/00 F28D7/00 (Core/Invention)

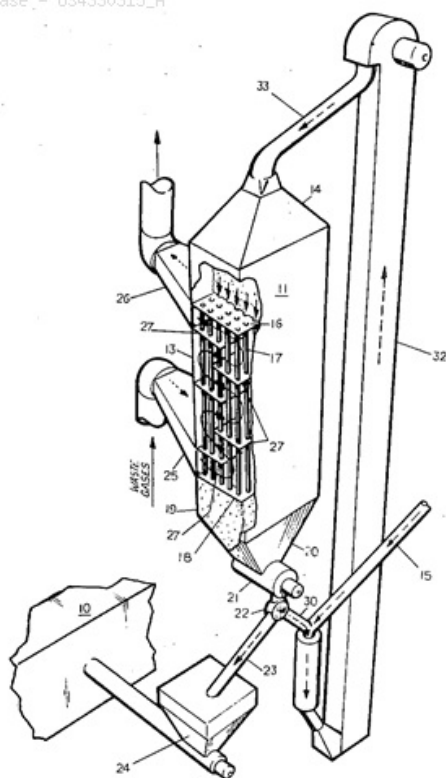
International (IPC 1-7): C03B1/00 C03B3/00 C03B5/00 C03B5/16 C03B5/235 F27D13/00 F28D7/00 F28D7/10 F28F9/24

CPC: Y02P40/52 Y02P40/56 Y02P40/57 F28D7/16 C03B3/023 F28D2021/0045 F28F9/22

European: C03B3/02A F28D7/16 F28F9/22 R28D21/00T130

US: 165/101 165/103 165/104.18 65/134.6 65/136.1 65/27 65/335

PatBase - US4330315_A



Family:

Publication number	Publication date	Application number	Application date
AU198174268 A1	19820318	AU19810074268	19810818
AU527157 B2	19830217	AU19810074268	19810818
CA1173650 A1	19840904	CA19810383464	19810807
DE3133467 A1	19820415	DE19813133467	19810825
DE3133467 C2	19831201	DE19813133467	19810825
ES505099 A0	19830101	ES19810505099	19810901
ES515268 A0	19830801	ES19820515268	19820826
ES8301846 A1	19830101	ES19810505099	19810901
ES8307671 A1	19830801	ES19820515268	19820826
FR2489295 A1	19820305	FR19810016734	19810902

FR2489295 B1	19850705	FR19810016734	19810902
GB2083018 A1	19820317	GB19810026256	19810828
GB2083018 B2	19840808	GB19810026256	19810828
IT1171498 A	19870610	IT19810049211	19810901
IT8149211 A0	19810901	IT19810049211	19810901
JP1249235 C3	19850125	JP19810135661	19810831
JP57082126 A2	19820522	JP19810135661	19810831
JP59025730 B4	19840620	JP19810135661	19810831
MX159634 A	19890720	MX19810188797	19810818
US4330315 A	19820518	US19800213766	19801205
ZA8105567 A	19820929	ZA19810005567	19810812

Priority:

CA19810383464 19810807 US19800183655 19800902 US19800213766 19801205

Probable Assignee: OWENS ILLINOIS INC A CORPOF OH

Assignee(s): (std): OWENS ILLINOIS INC

Assignee(s): OWENS ILLINOIS INC 43666 TOLEDO OHIO US ; OWENS ILLINOIS INC A CORPOF OH ; RICHARDS RAYMOND S ; ROUGH ROBERT R SR ; NELSON FREDERICK J ; OWENS ILLINOIS GLASS CONTAINER INC

Inventor(s): (std): FUREDERITSUKU JASUTEIN NERUSON ; JUSTIN NELSON FREDERICK ; NELSON FREDERIC JUSTIN ; NELSON FREDERICK J ; NELSON FREDERICK JUSTIN ; FREDERICK J NELSON ; RAYMOND S RICHARDS ; REIMONDO SHIAAZU RICHAAZU ; RICHARD RAYMOND SEARS ; RICHARDS RAYMOND S ; RICHARDS RAYMOND SEARS ; ROUGH ROBERT R SR ; ROUGH ROBERT ROY ; ROUGH ROBERT ROY SR ; ROUGH SEN ROBERT ROY ; ROUGH SR ROBERT R ; SEARS RICHARDS RAYMOND ; SR ROUGH ROBERT ROY ; ROBERT R ROUGH SR ; ROBAATO ROI RAFU SHIINIA ; REIMONDO SHIAAZU RICHYAAZU ; FUREDERITSUKU JIYASUTEIN NERUS

Inventor(s): FREDERICK JUSTIN NELSON RAYMOND SEARS RICHARDS ET ; FREDERIC JUSTIN NELSON ; FUREDERITSUKU JIYASUTEIN NERUSON ; ROBERT ROY ROUGH ; ROUGH ROBERT R ; ROBERT RROUGH SR ; RAYMOND SRICHARDS ; FREDERICK JUSTIN NELSON RAYMOND SEARS RICHARDS ET ROBERT ROY ROUGH SR ; FREDERICK JNELSON ; ROY ROUGH SEN ; ROY ROUGH SEN ROBERT ; ROUGH SEN ; RICHARDS RAYMOND SEARS SYLVANIA OHIO US ; RAYMOND SEARS RICHARD ; RAYMOND SEARS RICHARDS ; FREDERICK JUSTIN NELSON ; FREDERICK JUSTIN NELSON RAYMOND SEARS RICHARDS... ; NELSON FREDERICK JUSTIN SWANTON OHIO US

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; G RONALD BELL AND ASSOCIATES

20) Family number: 3820016 (US4385918A)

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Title: METHOD AND APPARATUS FOR FEEDING RAW MATERIAL TO AN ARC FURNACE

Abstract: Source: US4385918A [EN] A method and apparatus for feeding pulverant raw material to an arc furnace having a plurality of arcing locations defined by vertical electrodes. A vertical feed tube gravitationally conveys the raw material to a central location inside the furnace which is above the arcing locations. A rotatable deflector is located at the bottom of the feed tube and is rotated in step-wise fashion to direct raw material from the feed tube to each of the arcing locations. A fixed deflector is located at each arcing location to confine the raw material fed into the furnace predominantly to the arcing locations. By locating most of the raw material at the arcing locations, the feeding mechanism of the present invention improves the stability of the arc and the melting efficiency of the furnace.

Classifications:

International (IPC 8-9): C03B3/00 (Advanced/Invention);

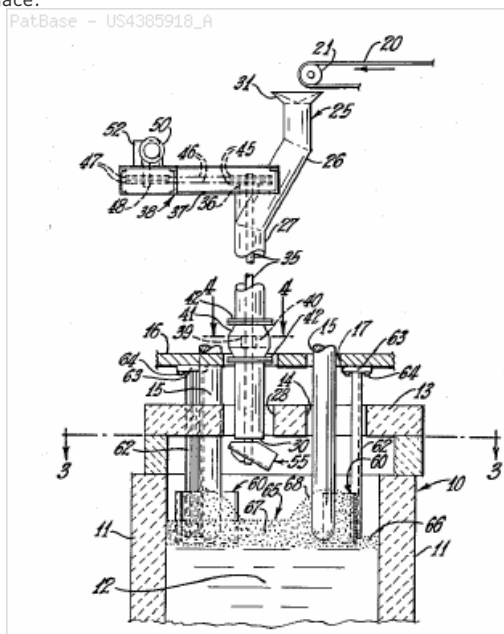
C03B3/00 (Core/Invention)

International (IPC 1-7): C03B3/00

CPC: Y10S65/04 C03B3/00

European: C03B3/00

US: 193/29 373/33 373/81 414/160 414/165 65/27 65/335 65/DIG.4



Family:

Publication number	Publication date	Application number	Application date
US4385918 A	19830531	US19820342853	19820126

Priority:

US19820342853 19820126

Probable Assignee: OWENS CORNING FIBERGLAS A CORP OF CORP

Assignee(s): (std): OWENS CORNING FIBERGLASS CORP

Assignee(s): WILMINGTON TRUST CO ; WADE WILLIAM J ; OWENS CORNING FIBERGLAS A CORP OF CORP ; OWENS CORNING FIBERGLAS A CORP OF DE CORP ; OWENS CORNING FIBERGLAS CORP ; OWENS CORNING

Inventor(s): (std): DUNN CHARLES S ; SENG STEPHEN

21) Family number: 24048255 (US4528016A)

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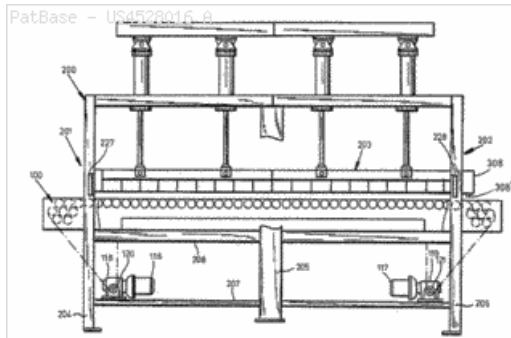
Title: Glass sheet treating furnace with a roller conveyor

Abstract: Source: US4528016A [EN] A glass furnace, e.g. for annealing or tempering glass, has a roller conveyor whose fused rollers rest upon stub rollers overshoot by a belt which alternately overshoots and undershoots the stub rollers. A drive for the belt advantageously is controlled by a computer allowing display of the heater parameters etc. and includes a pair of motors connected to the belt with overrunning clutches and driven in opposite senses to alternately drive the belt and thereby prevent play in the movement of the latter. The heater overlying the conveyor has a matrix array of individually or collectively controllable infra-red heaters.

Classifications:**International (IPC 8-9):** B65G13/07 C03B29/08

C03B35/16 (Advanced/Invention);

B65G13/02 C03B29/00 C03B35/00 (Core/Invention)

International (IPC 1-7): C03B27/00**CPC:** B65G13/07 C03B29/08 C03B35/163 C03B35/164 C03B35/165 C03B2225/02**European:** B65G13/07 C03B29/08 C03B35/16 C03B35/16D C03B35/16D2 C03B35/16E M03B225/02**US:** 432/121 432/122 65/111 65/162 65/163 65/273 65/348 65/349 65/350**Family:**

Publication number	Publication date	Application number	Application date
US4528016 A	19850709	US19830531906	19830912
US4601743 A	19860722	US19850729680	19850502
US4608073 A	19860826	US19850752306	19850703
USRE32497 E	19870908	US19860917990	19861010

Priority:

US19830531906 19830912 US19850729680 19850502 US19860917990 19861010
 US19850752306 19850703

Probable Assignee: CASSO SOLAR A NJ CORP CORP**Assignee(s):** (std): CANFIELD DOUGLAS M ; CASSO SOLAR CORP**Assignee(s):** CASSO SOLAR 3 PEARL CT ALLENDALE NJ 07401 A NJ COR ; CASSO SOLAR A NJ CORP CORP**Inventor(s):** (std): CASSO SOLAR CORPORATION ; FORD JAMES ; CANFIELD DOUGLAS M**Inventor(s):** CASSO SOLAR CORP**22) Family number: 11470152** (US4948411A)

© PatBase

Title: Glass melting furnace for glazing environmentally hazardous wastes

Abstract: Source: US4948411A [EN] Furnace has a melting section and a withdrawal section bounded by side walls of refractory material which extend to a glass outlet formed by an overflow edge remote from the melting section. In operation a molten glass layer, a molten layer of undissolved sulfates, and a batch layer succeed one another from the bottom up in the melting section. The withdrawal section is separated from the melting section by a first dividing wall extending downwardly and terminating above the surface of the molten glass. A second dividing wall is disposed for the formation of an underside glass passage, and at least one closable opening for withdrawing the molten sulfates is disposed at the level of the sulfate layer between the first and second dividing walls. The opening has a bottom boundary whose height is adjustable, so that it can be adjusted to lie above the surface of the glass melt.

Classifications:**International (IPC 8-9):** B09B3/00 C03B3/00 C03B3/02 C03B5/00

C03B5/027 C03B5/04 C03B5/20 C03B5/26 C03B7/02 C03C1/00

G21F9/16 G21F9/30 G21F9/32 (Advanced/Invention);

B09B3/00 C03B3/00 C03B5/00 C03B7/00 C03C1/00 G21F9/16

G21F9/30 (Core/Invention)

International (IPC 1-7): A62D3/00 B07B1/00 B09B3/00 C03B3/00

C03B3/02 C03B5/00 C03B5/02 C03B5/03 C03B5/04 C03B5/16

C03B5/20 C03B5/24 C03B5/26 C03C1/00 C04B18/06 C04B18/16

G21F9/16 G21F9/30 G21F9/32 G21F9/36

CPC: C03B5/20 C03B5/205 C03B5/265 Y02P40/52 C03B5/262

B09B3/005 B09B3/0066 C03B3/00 C03B5/005 C03B5/027 C03B7/02

C03C1/00 C03C1/002 G21F9/305

European: B09B3/00D4M B09B3/00H C03B3/00 C03B5/00B

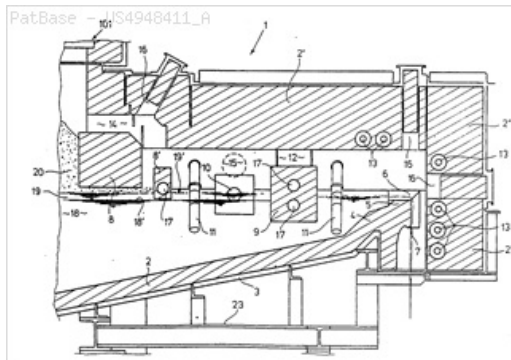
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C03B7/02 C03C1/00 C03C1/00B G21F9/30B2D

US: 405/129.5 405/129.55 405/129.57 423/DIG.2 501/155 65/134

65/134.8 65/135.7 65/136 65/136.1 65/136.4 65/27 65/337 65/342

65/347

**Family:**

Publication number	Publication date	Application number	Application date
AT119308 E	19950315	AT19890122818T	19891211
CA2005314 AA	19900613	CA19892005314	19891212
CA2005314 C	19960430	CA19892005314	19891212
DD290867 A5	19910613	DD19890335561	19891212

DE3841918 C1	19900412	DE19883841918	19881213
DE3912311 C1	19900823	DE19893912311	19890414
DE58909059 D1	19950406	DE19895009059	19891211
EP0373557 A2	19900620	EP19890122818	19891211
EP0373557 A3	19920311	EP19890122818	19891211
EP0373557 B1	19950301	EP19890122818	19891211
ES2069569 T3	19950516	ES19890122818T	19891211
HU210639 B	19950628	HU19890006512	19891212
HU56046 A2	19910729	HU19890006512	19891212
HU8906512 A0	19900328	HU19890006512	19891212
JP2229725 A2	19900912	JP19890324871	19891213
JP5009378 B4	19930204	JP19890324871	19891213
KR19900009460 A	19900704	KR19890018371	19891212
KR930001961 B1	19930320	KR19890018371	19891212
US4948411 A	19900814	US19890303841	19890130
US5035735 A	19910730	US19890450346	19891213

Priority:

CA19892005314 19891212 DE19883841918 19881213 US19890303841 19890130
DE19895009059 19891211 DE19893903194 19890203 DE19893912311 19890414

Probable Assignee: SORG GMBH AND CO KG

Assignee(s): (std): SORG GMBH AND CO KG

Assignee(s): BETEILIGUNGEN SORG GMBH U CO KG ; SORG GMBH ; SORG G M B H AND CO KG ; BETEILIGUNGEN SORG GMBH UND CO KG ; SORG G M B H AND CO ; PIEPER HELMUT ; SORG GMBH AND CO ; SORG GMBH AND CO KG 8770 LOHR DE ; SORG GMBH U CO KG DE ; ZSCHOCHER HARTMUT ; BETAIRIGUNGEN ZORUKU GMBH UNTO CO KG ; BETEILIGUNGEN SORG GMBH ; BETEILIGUNGEN SORG GMBH AND CO KG ; BETEILIGUNGEN SORG GMBH AND CO KG 97816 LOHR DE

Inventor(s): (std): HARUTOMUUTO CHIYOHIYAA ; HERUMUUTO PIIPA ; PIPE HELMUT ; SORG HELMUT ; SORG HELMUT DIPL ING ; PIEPER HELMUT DIPL ING ; ZSCHOCHER HARTMUT ; ZSCHOCHER HARTMUT DR ING ; ZSCHOCHER LOHR DR ; PIEPER HELMUT

Inventor(s): ZSCHOCHER DR 8770 LOHR DE ; SORG HELMUT DIPL ING 8751 GLATTBACH DE ; ZSCHOCHER HARTMUT DR ING D 8770 LOHR MAIN DE ; ZSCHOCHER HARTMUT DE ; PIEPER HELMUT DIPL ING 8770 LOHR DE ; PIEPER HELMUT DIPL ING D 8770 LOHR MAIN DE ; SORG HELMUT DIPL ING D 8752 GLATTBACH DE ; ZSCHOCHER ; PIEPER HELMUT DE ; HARUTOMUUTO CHOHYAA

Agent(s): GOWLING LAFLEUR HENDERSON LLP

Designated states: AT BE CH DE ES FR GB GR IT LI LU NL SE

23) Family number: 20395885 (US5716425A)

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Title: CONTROL SYSTEM FOR GLASS BENDING PLATEN

Abstract: Source: US5716425A [EN] A closed loop control system for a hydraulically actuated glass sheet press bending platen. Flow of fluid supplied to the cylinder operating the press platen is controlled through a servo solenoid valve. A linear motion transducer associated with the platen and sends appropriate signals to a programmable motion controller. The motion controller controls a position module operatively coupled to a servo solenoid valve which regulates the flow of hydraulic fluid from a pump to the cylinder. The motion controller utilizes data from the linear motion transducer for making necessary corrections to insure that the platen cycles precisely in accordance with a predetermined program. In a second embodiment of the invention, the closed loop control system for the hydraulically operated platen is combined with a precision control of a variable speed glass sheet conveyor means for improved registry of the glass sheet being bent with the platen member.

Classifications:

International (IPC 8-9): C03B23/03 (Advanced/Invention);

C03B23/03 (Advanced/Non-invention);

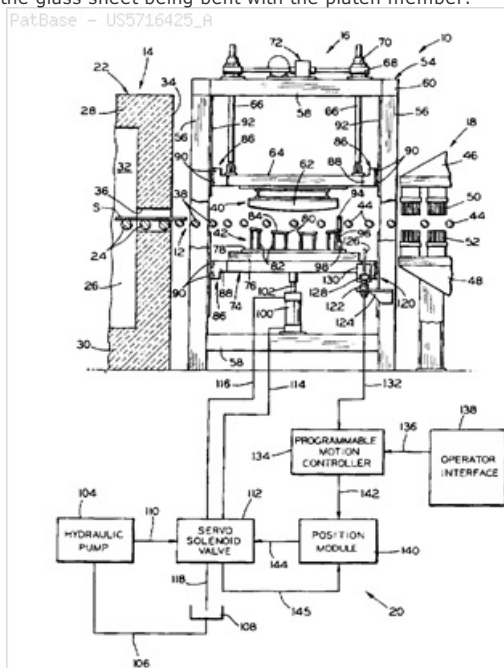
C03B23/02 (Core/Invention)

International (IPC 1-7): C03B C03B C03B23/023 C03B23/03 G12B1/00

CPC: Y10S65/13 C03B23/03 C03B2225/02

European: C03B23/03 M03B225/02

US: 65/106 65/160 65/163 65/273 65/287 65/29.1 65/29.11 65/29.12 65/29.15 65/29.18 65/291 65/DIG.13



Family:

Publication number	Publication date	Application number	Application date
AU199522842 A1	19951110	AU19950022842	19950412
BRPI9506191 A	19960416	BR1995PI06191	19950412
CA2164822 AA	19951208	CA19952164822	19950412

CN1128981 A	19960814	CN19951090472	19950412
EP0703877 A1	19960403	EP19950916296	19950412
EP0703877 A4	19961218	EP19950916296	19950412
FI955967 A	19951213	FI19950005967	19951213
FI955967 A0	19951213	FI19950005967	19951213
JP8512278 T2	19961224	JP19950527044T	19950412
KR19960703094 A	19960619	KR19950705637	19950412
PL312256 A1	19960401	PL19950312256	19950412
US5716425 A	19980210	US19950398379	19950303
WO9528360 A1	19951026	WO1995US04434	19950412
ZA9503021 A	19960105	ZA19950003021	19950412

Priority:

US19940228121 19940415 US19950398379 19950303 WO1995US04434 19950412

Probable Assignee: LIBBEY OWENS FORD CO

Assignee(s): (std): LIBBEY OWENS FORD CO

Assignee(s): REVELLS ROBERT G ; SMITH GARY A ; WOLFE JENNIFER R ; ENK ALLAN T

Inventor(s): (std): A T ENK ; ALLAN T ENK ; ENK ALLAN T ; G A SMITH ; GARY A SMITH ; J R WOLFE ; JENNIFER R WOLFE ; REVELLS ROBERT G ; ROBERT G REVELLS ; SMITH GARY A ; WOLFE JENNIFER R ; WOLFE J R ; SMITH G A ; ENK A T

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; LESPERANCE AND MARTINEAU

Designated states: AT AU BE BR CA CH CN DE DK ES FI FR GB GR IE IT JP KR LI LU MC MX NL PL PT SE

24) Family number: 11743843 (DE4424951A1)

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Title: Method and appts. for vitrifying residue material contg. silicate

Abstract: Source: DE4424951A1 [EN] Residue material is fed into the furnace via a screw feed (200) to slide down a side wall (14) into the molten material (12). The feed material forms a cone (40) whose point facing towards the molten surface has an angle (B) of ~ 25 deg. The point of the cone may be partially submerged or located above the molten surface (12).

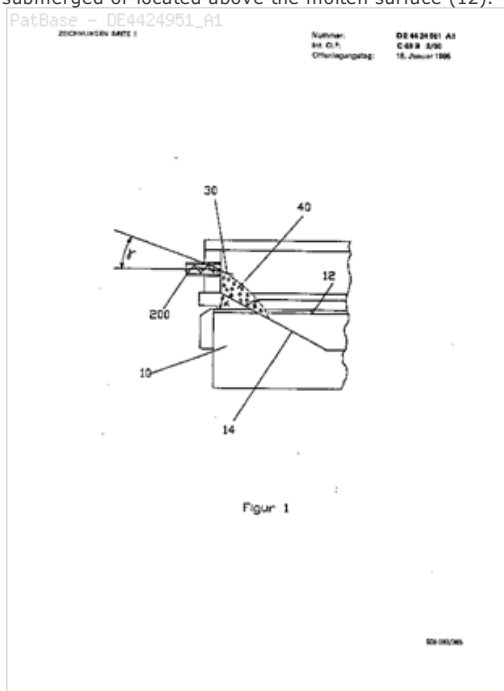
Classifications:

International (IPC 8-9): B09B3/00 C03B3/00 C03B5/00 C03B5/03 C03B5/04 (Advanced/Invention); B09B3/00 (Core/Invention)

International (IPC 1-7): A62D3/00 C03B3/00 C03B5/04

CPC: B09B3/0066 C03B3/00 C03B5/005 C03B5/03 C03B5/04

European: B09B3/00H C03B3/00 C03B5/00B C03B5/03 C03B5/04



Family:

Publication number	Publication date	Application number	Application date
DE4424951 A1	19960118	DE19944424951	19940714
DE4424951 C2	19970710	DE19944424951	19940714

Priority:

DE19944424951 19940714

Probable Assignee: FLACHGLAS AG

Assignee(s): (std): FLACHGLAS AG

Assignee(s): FLACHGLAS AG 90766 FUERTH DE

Inventor(s): (std): KUHLMANN HANS DIPL ING ; RAEBIGER WOLFGANG DIPL ING

Inventor(s): RAEBIGER WOLFGANG DIPL ING 45890 GELSENKIRCHEN DE ; KUHLMANN HANS DIPL ING 44866 BOCHUM DE

25) Family number: 15595415 (NL1013826C)

© PatBase

Title: Glass fibre waste processing method comprises adding liquid to the waste whilst breaking it down mechanically

Abstract: A liquid is added to the waste before or during mechanical degradation. A method for processing glass fibre waste by applying a mechanical load in order to break it up into smaller pieces involves adding a liquid to the waste. An Independent claim is also included for the process apparatus used.

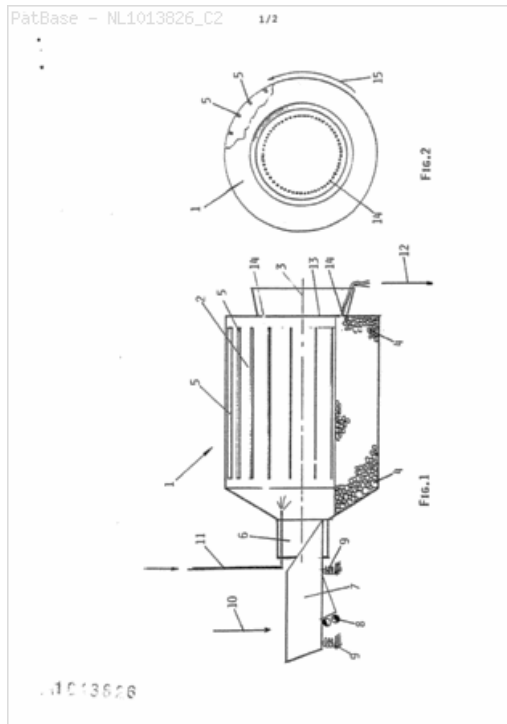
Classifications:

International (IPC 8-9): C03B37/10 (Advanced/Invention);
C03B37/10 (Core/Invention)

International (IPC 1-7): B02C19/12 C03B37/10

CPC: C03B37/10

European: C03B37/10



Family:

Publication number	Publication date	Application number	Application date
NL1013826 C2	20010614	NL19991013826	19991213

Priority:

NL19991013826 19991213

Probable Assignee: WILLEM FRANS VAN DER MAST

Assignee(s): (std): WILLEM FRANS VAN D MAST ; WILLEM FRANS VAN DER MAST

Inventor(s): (std): MAST WILLEM FRANS VAN D ; MAST WILLEM FRANS VAN DER ; WILLEM FRANS VAN D MAST

Inventor(s): WILLEM FRANS VAN DER MAST

26) Family number: 29772890 (US2004049094A)

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Title: METHOD FOR DESTROYING AND/OR INERTING WASTE

Abstract: Source: US2004049094A [EN] A subject matter of the invention is a process for destroying waste and/or rendering it inert, in particular industrial, biological or farm-produce waste: use is made of a reactor provided with heating means comprising at least one submerged burner, and said reactor is fed with at least partially vitrifiable materials, which are heated with said heating means in order to form and to maintain, in the reactor, an at least partially liquid/foamy phase at at least 800 degrees centigrade Then said waste is introduced into said phase in order for its organic components to be decomposed therein by combustion and/or its inorganic components to be melted or coated in said phase. Finally, said phase, charged with molten/coated waste and/or with combustion products from said waste, is withdrawn from the reactor.

Classifications:

International (IPC 8-9): F23G5/00 F23G5/02 F23G5/033 F23G7/00 F23G7/10 F23G7/14 (Advanced/Invention);
F23G5/00 F23G5/02 F23G7/00 (Core/Invention)

International (IPC 1-7): B09B3/00 F23G5/00 F23G5/033 F23G5/33 F23G7/10 F23G7/14

CPC: F23G5/033 F23G7/10 F23G7/14 F23G2202/20 F23G2205/121 F23G2205/122

European: F23G5/033 F23G7/10 F23G7/14 R23G202/20 R23G205/121 R23G205/122

US: 405/129.27 588/252

Family:

Publication number	Publication date	Application number	Application date
AT330178 E	20060715	AT20010270196T	20011212
AU2002219291 AA	20020624	AU20020219291	20011212
DE60120750 D1	20060727	DE20016020750	20011212
DE60120750 T2	20070614	DE20016020750T	20011212
EP1342032 A1	20030910	EP20010270196	20011212
EP1342032 B1	20060614	EP20010270196	20011212
ES2265390 T3	20070216	ES20010270196T	20011212
FR2818358 A1	20020621	FR20000016403	20001215
FR2818358 B1	20060310	FR20000016403	20001215
PT1342032 T	20061130	PT20010270196T	20011212
US2004049094 AA	20040311	US20030450658	20030616
US6857999 BB	20050222	US20030450658	20030616
WO0248612 A1	20020620	WO2001FR03958	20011212

Priority:

FR20000016403 20001215 WO2001FR03958 20011212

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s): (std): JEANVOINE PIERRE ; SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE
Inventor(s): (std): JEANVOINE PIERRE
Inventor(s): PIERRE JEANVOINE
Agent(s): SAINT GOBAIN RECHERCHE
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

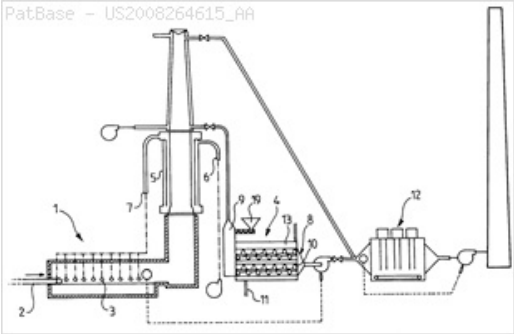
27) Family number: 33210969 (US2008264615A) © PatBase

Title: DEVICE FOR EXTRACTING HEAT FROM GAS AND FOR RECOVERING CONDENSATES

Abstract: Source: US2008264615A [EN] A device for extracting heat from gas, particularly combustion gas, containing dust and/or condensable substances, for recovering condensates, and including at least one heat exchanger including a shell having a symmetry of revolution surrounded by a cooling jacket. The device includes an opening for passage of a surfactant for treating the internal surface of the shell, the shell including at least one mechanism creating a substantially helicoid rotating gas stream in at least part of the shell.

Classifications:

International (IPC 8-9): C03B5/00 C03B5/237 F23J15/02 F23J15/06 F24H3/02 F27D17/00 F27D25/00 F28B1/00 F28B9/08 F28D17/00 F28D7/10 F28D7/16 F28F1/00 F28F13/12 F28G1/12 F28G3/02 (Advanced/Invention); C03B5/237 F28D17/00 F28D7/16 F28F13/12 F28G1/12 (Advanced/Non-invention); F28F13/00 F28G1/00 (Core/Invention)
International (IPC 1-7): F28D7/16 F28G1/12
CPC: Y02P40/535 C03B5/237 F27D17/004 F28G1/12 F28D7/16 F28F13/12
European: C03B5/237 F27D17/00D F28D7/16 F28F13/12 F28G1/12
US: 165/120 165/172 165/95 65/335



Family:

Publication number	Publication date	Application number	Application date
AT509252 E	20110515	AT20060709474T	20060203
CN101115966 A	20080130	CN200680004454	20060203
DE602006021862 D1	20110622	DE200660021862T	20060203
EP1846721 A1	20071024	EP20060709474	20060203
EP1846721 B1	20110511	EP20060709474	20060203
ES2365861 T3	20111011	ES20060709474T	20060203
FR2881820 A1	20060811	FR20050050397	20050210
FR2881820 B1	20080530	FR20050050397	20050210
IN02724KN2007 A	20070831	IN2007KN02724	20070724
IN283258 B	20170519	IN2007KN02724	20070724
JP2008531959 T2	20080814	JP20070554610T	20060203
JP5198876 B2	20130515	JP20070554610T	20060203
KR101288716 B1	20130722	KR20077018266	20060203
KR20070104400 A	20071025	KR20077018266	20060203
MX2007009684 A1	20070913	MX20070009684	20060203
RU2007133612 A	20090320	RU20070133612	20060203
RU2402735 C2	20101027	RU20070133612	20060203
UA90887 C2	20100610	UA20070100036	20060203
US2008264615 AA	20081030	US20060815972	20060203
US8033327 BB	20111011	US20060815972	20060203
WO06085019 A1	20060817	WO2006FR50093	20060203

Priority:

EP20060709474 20060203 FR20050050397 20050210 FR20050550397 20050210
WO2006FR50093 20060203

Probable Assignee: SAINT GOBAIN FABRICS EUROPE

Assignee(s): (std): SAINT GOBAIN ADFORS ; SAINT GOBAIN VETROTEX ; SAINT GOBAIN VETROTEX FRANCE ; SAINT GOBAIN TECHNICAL FABRICS ; VAN HEES CHRISTIAN ; SEHN GOBEHN VETROTEKS FRANS
Assignee(s): SAINT GOBAIN VETROTEX FRANCE S A SOCIETE ANONYME ; SAINT GOBAIN VETROTEX FRANCE S A ; SAINT GOBAIN VETROTEX FRANCE SA ; SAINT GOBAIN VETROTEX FRANCE SOC ANONYME SA ; SAINT GOBAIN TECHNICAL FABRICS EUROPE ; SAINT GOBAIN FABRICS EUROPE
Inventor(s): (std): CHRISTIAN HEES VAN ; VAN HEES CHRISTIAAN ; VAN KHES KRISTIAN ; VAN HEES CHRISTIAN ; HEES CHRISTIAN VAN
Inventor(s): CHRISTIAN VAN HEES
Agent(s): BOCKHORN AND KOLLEGEN PATENT U RECHTSANWAELTE; COLOMBIER CHRISTIAN; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

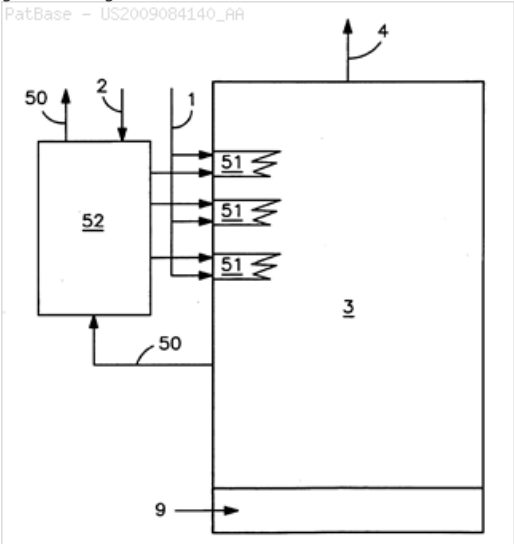
28) Family number: 43088383 (US2009084140A) © PatBase

Title: GLASS FURNACE FLUE GAS TO HEAT GLASSMAKING MATERIAL AND OXIDANT

Abstract: Source: US2009084140A [EN] Heat in a stream of combustion products obtained from a glassmelting furnace heated by oxy-fuel combustion is passed to incoming glassmaking materials in a heat exchanger without requiring reduction of the temperature of the stream yet without causing softening of the glassmaking material.

Classifications:

International (IPC 8-9): C03B3/02 C03B5/16 C03B5/235
C03B5/237 (Advanced/Invention);
C03B3/00 C03B5/00 (Core/Invention)
CPC: Y02P40/535 Y02P40/55 Y02P40/57 C03B3/023 C03B5/237
European: C03B3/02A C03B5/237
US: 65/134.4 65/134.400P



Family:

Publication number	Publication date	Application number	Application date
US2009084140 AA	20090402	US20080212043	20080917
WO09045730 A1	20090409	WO2008US76757	20080918

Priority:

US20070976156P 20070928 US20080212043 20080917

Probable Assignee: PRAXAIR TECHNOLOGY INC

Assignee(s): (std): KOBAYASHI HISASHI ; PRAXAIR TECHNOLOGY INC

Inventor(s): (std): KOBAYASHI HISASHI

Agent(s): PRAXAIR INC LAW DEPARTMENT M1 557; BLACK DONALD T ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

29) Family number: 50491645 (US2013167587A)

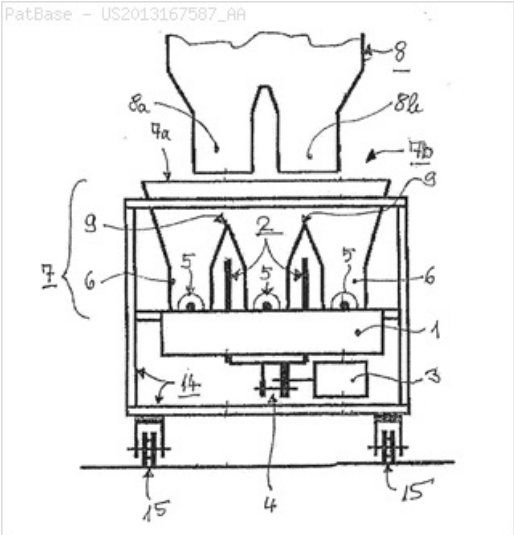
© PatBase

Title: FEEDING DEVICE FOR GLASS MELTING INSTALLATIONS

Abstract: Source: US2013167587A [EN] A feeding device for introducing particulate feedstock into glass melting installations, comprising pushing conveyors supplied by storage containers via guiding channels and directed onto the melt surface, and comprising a slide for advancing the feedstock on the melt surface. To largely avoid asymmetric material and temperature distribution and movements transverse to a feedstock transporting direction, and exposure of the installation mineral construction materials to changing thermal loads, a) at least three pushing conveyors are arranged alongside one another and, in the region of the guiding channels, are arranged so closely alongside one another that they can be supplied by a common distributing device, and are separated from one another in the intermediate region between two guiding channels by a dividing edge, and b) a linkage for the drive of a slide that can be introduced into the glass melt is led through the spacing between each two guiding channels.

Classifications:

International (IPC 8-9): C03B3/00 C03B3/02 C03B5/24 F27B14/16
F27D3/04 F27D3/08 F27D3/10 (Advanced/Invention)
CPC: C03B3/00 C03B3/005
European: C03B3/00 C03B3/00B
US: 65/136.2 65/146 65/160 65/29.16 65/335



Family:

Publication number	Publication date	Application number	Application date
CN103080024 A	20130501	CN201180041902	20110831
CN103080024 B	20150805	CN201180041902	20110831
DE102010035893 B3	20120119	DE201010035893	20100831
DE502011003790 D1	20140821	DE201150003790T	20110831
EP2611743 A1	20130710	EP20110755041	20110831
EP2611743 B1	20140716	EP20110755041	20110831
IN03334KN2012 A	20130628	IN2012KN03334	20121101
JP2013538776 T2	20131017	JP20130526460T	20110831
JP5762543 B2	20150812	JP20130526460T	20110831
RU2013114287 A	20141010	RU20130114287	20110831
RU2556093 C2	20150710	RU20130114287	20110831
US2013167587 AA	20130704	US20110818606	20110831
WO12028656 A1	20120308	WO2011EP65037	20110831

Priority:

DE201010035893 20100831 EP20110755041 20110831 WO2011EP65037 20110831

Probable Assignee: BETEILIGUNGEN SORG GMBH AND CO KG

Assignee(s): (std): LINDIG MATTHAIS ; LINDIG MATTHIAS ; SORG GMBH AND CO KG ; WALTERT ERICH ; BETAJLIGUNGEN ZORG GMBKH U KO KG

Assignee(s): BETEILIGUNGEN SORG GMBH AND CO KG

Inventor(s): (std): LINDIG MATIAS ; LINDIG MATTHAIS ; LINDIG MATTHIAS ; LINDIG MATTHIAS DR ; VAL TERT EHRIKH ; WALTERT ERICH

Agent(s): KEIL AND SCHAAFHAUSEN PATENT U RECHTSANWAELTE; KEIL AND SCHAAFHAUSEN PATENT U RECHTSANWAELTE; KEIL AND SCHAAFHAUSEN PATENT UND RECHTSANWAELTE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

30) Family number: 52993150 (RU122380U)

© PatBase

Title: Comprehensive technology production line STEKLOGRANULYATA for foam glass production (Machine translation)

Abstract: Source: RU122380U **Machine translation:** Integrated production line for the manufacture of foamed glass steklogranulyatora containing unloader big bag with raw materials, components of the batch hopper nadvesovye equipped vibrodnischami, weighers dolomite and silica sand with a moisture content 0,5 percent, the assembly line, with a batch mixer roller compactor, the system of belt conveyors and elevators, feed batch compacted into the feed hopper of the thermal unit and a system of belt conveyors and elevators to transport glass spheres cooked in the stock tank, characterized in that it further comprises a hopper diatomite with humidity 15-30 percent, single-shaft ripper apron feeder, conveyor feed hopper nadvesovoy diatomite, equipped with twin-shaft agitator clods, diatomite dispensers, soda-sulfate mixture and zircon, twin-screw auger feeder with a decreasing step of winding the screws that are in mutual engagement, and a glass melting furnace, pouring molten glass from which it is carried out in the granulator designed as a scraper conveyor, immersed in a bath of water, the discharge from the granulator steklogranulyata carried out on a conveyor belt, feed wet glass spheres in a three-stage countercurrent unit with sloping louvre gratings on top of that in the process of drying poured glass spheres, and the bottom in counter-act the exhaust smoke glass furnace gases are sucked through exhaust fan and discharged into the atmosphere after purification in the cyclone unit.

Classifications:

International (IPC 8-9): C03C11/00 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
RU122380 U1	20121127	RU20120133400U	20120803

Priority:

RU20120133400U 20120803

Probable Assignee: JOINT STOCK CO STROMIZMERITEL

Assignee(s): JOINT STOCK CO STROMIZMERITEL

31) Family number: 53243296 (CN202762295U)

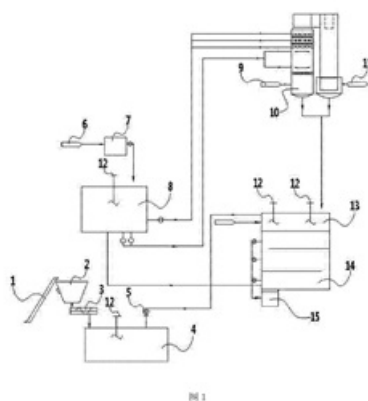
© PatBase

Title: FLUE GAS TREATMENT SYSTEM FOR GLASS KILN

Abstract: Source: CN202762295U **Machine translation:** The utility model relates to the field of glass production of gas treatment device, specifically a glass furnace flue gas treatment system, the lime solution preparation system, plus a base system, desulfurization system and waste processing system, comprising: the said lime solution preparation system includes bucket elevators, silos, screw conveyors, lime solution tank, lime slurry pump, the bucket elevator is located in silos the upper end of the lower hopper is connected to the screw conveyor, screw conveyor connection with the lime sump, lime liquid pool connected by a lime slurry pump and waste water treatment systems bubbling pool; and the addition of a base system includes an inlet lye, lye pool, circular spray pool, lye and lye inlet pool connections, lye and circulation spray pool connection pool, circular spray pool and the desulfurization tower desulfurization system connection.

Classifications:

International (IPC 8-9): B01D47/06 B01D53/50 B01D53/60 B01D53/78 (Advanced/Invention)

**Family:**

Publication number	Publication date	Application number	Application date
CN202762295 U	20130306	CN201220468345U	20120914

Priority:

CN201220468345U 20120914

Probable Assignee: ZHANGJIAGANG HONGXING ENVIRONMENTAL PROT EQUIPMENT CO LTD**Assignee(s):** (std): ZHANGJIAGANG HONGXING ENVIRONMENTAL PROT EQUIPMENT CO LTD**Assignee(s):** ZHANGJIAGANG HONGXING ENVIRONMENTAL PROTECTION EQUIPMENT CO**Inventor(s):** (std): FAN ZHIGANG ; FAN ZHONGXIANG ; ZHU JINHAI**32) Family number: 56887194** (IN01434KO2012A)

© PatBase

Title: METHOD OF SMELTING GLASS IN A GLASS FURNACE USING PETROLEUM COKE

Abstract: Source: IN01434KO2012A [EN] The present invention relates to a method of melting glass in a glass furnace, said method comprising the steps of: a) pulverizing the petroleum coke to size in the range of 160 micron to 200 micron; b) pulverized petroleum coke of step (a) is transported to the mixing chamber by screw pump along with compressed air under pressure applied in a range of 2-6 bar; c) petroleum coke of step (b) is then fed to a multiplicity of burners by a single screw pump, which is coupled with each port attached to the burners, at a pre-determined feed rate, into the furnace in order to achieve desired quality of glass.

Classifications:**International (IPC 8-9):** F27B3/00 (Advanced/Invention)**Family:**

Publication number	Publication date	Application number	Application date
IN01434KO2012 A	20140711	IN2012KO01434	20121220

Probable Assignee: HINDUSTHAN NATIONAL GLASS AND IND LTD**Assignee(s):** HINDUSTHAN NATIONAL GLASS AND IND LTD**Inventor(s):** SOMANY SANJAY**33) Family number: 60681151** (US2015307382A)

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Title: GLASS FURNACE WITH BOTTOM MATERIAL FEED

Abstract: Source: US2015307382A [EN] A glass furnace includes a furnace chamber for containing glass melt and a screw conveyor for receiving glass batch material and feeding the glass batch material to the furnace chamber. A dam wall is disposed with respect to the screw conveyor such that batch material from the screw conveyor must flow upward over the dam wall before entering the furnace chamber. The top of the dam wall may be below the level of the melt pool in the furnace chamber.

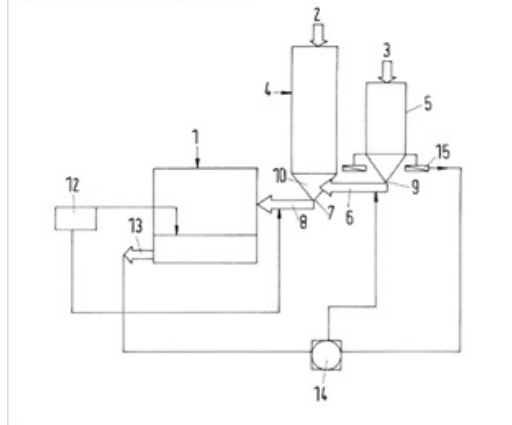
Classifications:**International (IPC 8-9):** C03B3/00 C03B3/02 C03B5/04

C03B5/20 (Advanced/Invention);

C03B5/235 (Advanced/Non-invention);

C03B3/00 (Core/Invention)

CPC: C03B3/023 C03B3/005 C03B3/026 C03B5/04 C03B5/2356**US:** 65/335

**Family:**

Publication number	Publication date	Application number	Application date
CN105314818 A	20160210	CN201510446766	20150727
DE102014010914 A1	20160128	DE201410010914	20140728
DE502015000416 D1	20170216	DE201550000416T	20150714
EP2980031 A1	20160203	EP20150176572	20150714
EP2980031 B1	20161221	EP20150176572	20150714
IN00768KO2015 A	20160826	IN2015KO00768	20150716
JP2016030721 A2	20160307	JP20150148460	20150728
RU2015131091 A	20170131	RU20150131091	20150727
US2016023936 AA	20160128	US20150809763	20150727

Priority:

DE201410010914 20140728 EP20150176572 20150714 JP20150148460 20150728

Probable Assignee: BETEILIGUNGEN SORG GMBH AND CO KG

Assignee(s): (std): BETEILIGUNGEN SORG GMBH AND CO KG ; SORG GMBH AND CO KG

Inventor(s): (std): BONFIG KARL ; CLEMENS EIDMANN ; EIDMANN CLEMENS ; KARL BONFIG ; LINDIG DR MATTHIAS ; LINDIG MATTHIAS ; MATTHIAS LINDIG

Agent(s): KEIL AND SCHAAFHAUSEN PATENT U RECHTSANWAELTE PARTGMBB; KEIL AND SCHAAFHAUSEN PATENT U RECHTSANWAELTE

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

35) Family number: 68573279 (CN207001717U)

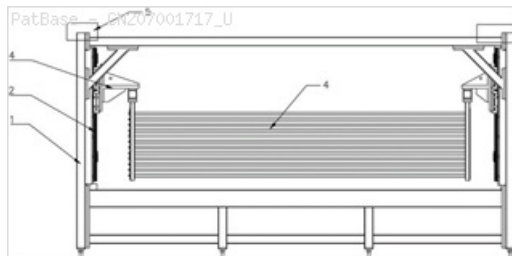
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Title: Glass production line storage sheet station (Machine translation)

Abstract: Source: CN207001717U **Machine translation:** The utility model discloses a glass production line storage sheet station having: The frame body; Elevating screw, in the frame body ends each provided with a lifting screw rotatably mounted on the frame body; Lifting frame, there are two, respectively, with two lifting screw threaded engagement; Stockers basket, its ends are connected with two lifting frame fixed connection, Stockers basket of upper and lower multi-layer structure, each layer can accommodate glass; Lifting servo motor, lifting screw connection and can drive the lifting screw rotating; Roller conveyor, disposed on the frame body, the roller conveyor can be transported to the storage basket in the glass sheet; A counterweight mechanism, including the counterweight, the counterweight through the rope and lifting frame connection, when a fault occurs on the pipeline or other reasons need to pause, glass furnace glass production line can produce not pause, storage.

Classifications:

International (IPC 8-9): B65G49/06 (Advanced/Invention)

**Family:**

Publication number	Publication date	Application number	Application date
CN207001717 U	20180213	CN201720704982U	20170616

Priority:

CN201720704982U 20170616

Probable Assignee: WUHU JINSAN SHI CNC TECHNOLOGY CO LTD

Assignee(s): WUHU JINSAN SHI CNC TECHNOLOGY CO LTD