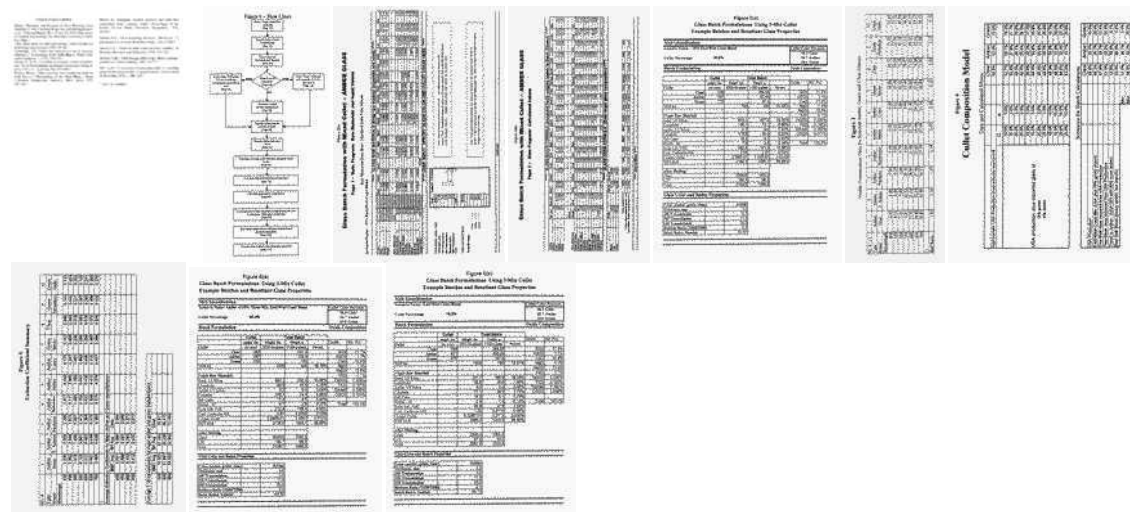


215 results for ((waste AND glass AND processor)/TI/AB/IW/CLMS/DESC/ODES/TX AND (select+)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX) AND (C03B)/IPC - Collection: FAMPAT

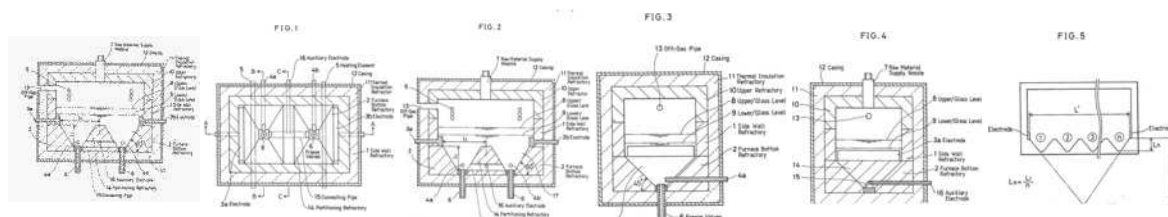
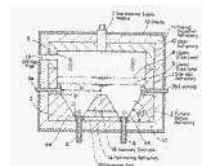
#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	A method of recycling batches of mixed color cullet into amber, green or flint glass with selected properties	WO9952831	1998-04-09	CULCHROME* G-TECH XG TECHNOLOGY	1999-10-21	1999-10-21

A glass bottle including recycled mixed color cullet of at least two colors, where one of said colors is green, and an amount of copper oxide effective to promote redness in relation to the amount of green glass in the glass bottle to give said bottle an amber color whereby said bottle has a 550 nm transmission of 8 to 20% and a redness ratio of 1.8 to 3.0



2.	Electric melting furnace with partitioned melting cavity for solidifying highly radioactive waste in glass	GB8819891	1987-08-21	DORYOKURO KAKUNENRYO* JAPAN NUCLEAR CYCLE DEVELOPMENT INSTITUTE* POWER REACTOR & NUCLEAR FUEL	1988-09-21	1988-09-21
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An electric melting furnace for solidifying highly radioactive waste in glass has a melting cavity made of a non-conductive refractory and adapted to melt a raw material consisting of highly radioactive waste and a glass material by passing a current between horizontally opposing electrodes, and to extract the molten glass material through a plurality of outlet ports at a bottom portion of the furnace, the melting cavity being partitioned by a non-conductive partitioning refractory provided on the bottom portion of the furnace between outflow ports. Since the furnace is so structured that the melting cavity is partitioned by the non-electrically conductive refractory, all current lines connecting the pair of electrodes for melting the highly radioactive waste, which contains elements of the platinum group, detour around the partitioning refractory. According to the current line distribution produced, it is just as if the electrodes were located on the upper side of the refractory as seen from each section of the partitioned melting cavity. This makes it possible to prevent the current flowing between the electrodes from concentrating in deposits which collect at the furnace bottom and contain the platinum-group elements in high concentration. It is also possible to reduce melting cavity depth in comparison with the melt surface area and inter-electrode distance.

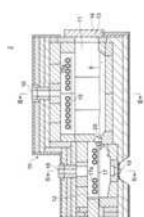
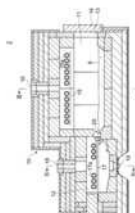


3.	Treatment method and treatment apparatus for glass wool waste	JP2004196616	2002-12-19	NITTO BOSEKI* NITTOBO TOGAN*	2004-07-15	2004-07-15
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PROBLEM TO BE SOLVED: To provide a treatment method and a treatment apparatus for glass wool wastes, wherein organic matter stuck to the glass wool wastes is removed and the glass that contains fewer bubbles is easily obtained.

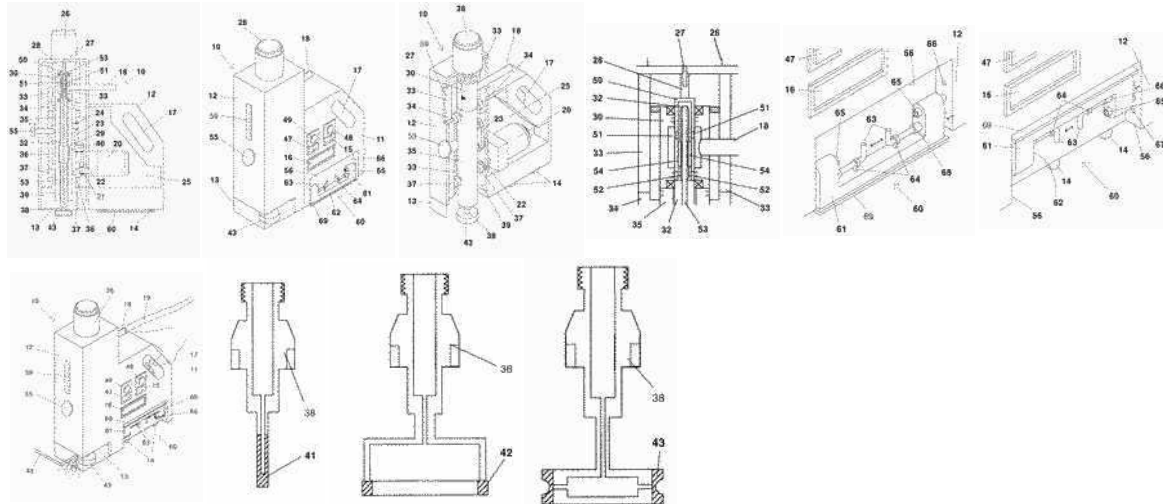
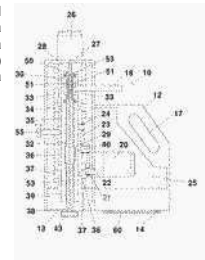
SOLUTION: The treatment apparatus 2 has a melting furnace 10 provided with a 1st heating chamber 11 and with a 2nd heating chamber 12 arranged in parallel with the 1st heating chamber 11. The 1st heating chamber 11 and the 2nd heating chamber 12 communicate with each other, and the glass wool wastes 6 melted by the treatment in the 1st heating chamber 11 is made to flow into the 2nd heating chamber 12 from the 1st heating chamber 11. A radiation heating part 15, which heats the glass wool wastes 6 by generating radiation heat, is provided in the vicinity of an upper part inside the 1st heating chamber 11. Further, an exhaust port 16, which exhausts gas generated in the 1st heating chamber 11, is formed in the upper part of the 1st heating chamber 11. The 2nd heating chamber 12 is provided with a radiation heating part 17 and an exhaust port 18 in the same way as the 1st heating chamber 11.

COPYRIGHT: (C)2004,JPO&NCIPI



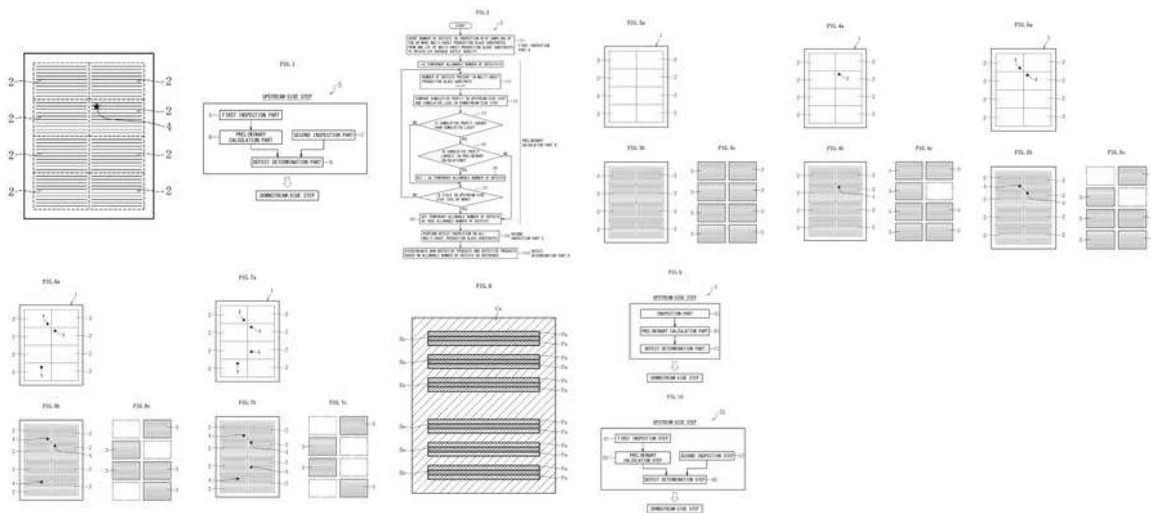
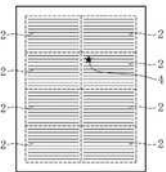
4. **A machine for cutting and grinding of a glass** KR20010055277 1999-12-10 LEE YOUNG CHEOL 2001-07-04 2001-07-04

PURPOSE: A **glass cutting processor** is provided which more conveniently and accurately performs various **glass** cutting processing, reduces the space for working and significantly improves the workability. CONSTITUTION: The **glass cutting processor**(10) comprises: (i) a main body(12); (ii) a caster(14); (iii) a **waste glass** groove(17); (iv) a water injecting port(18); (v) an up and down moving motor(20); (vi) motor axes(21)(27); (vii) a motive crank(22); (viii) a subordinate motive crank(23); (ix) a casing link(24); (x) a power chamber; (xi) a rotating motor(26); (xii) a rotating spindle(28); (xiii) a casing hanging jaw(29); (xiv) a joint casing(30); (xv) a driving axis(32); (xvi) guide rails(33)(36); (xvii) guide rollers(34)(37); (xviii) a driving axis casing(35); (xix) a drill chuck; (xx) a working chamber(39); (xxi) a driving axis hanging groove(40); (xxii) processing tips(43); (xxiii) a spindle casing(50); (xxiv) water injection holes(51); (xxv) a water permeating hole(53); (xxvi) a casing fixing tool(55); (xxvii) a main body fixing stand(60).



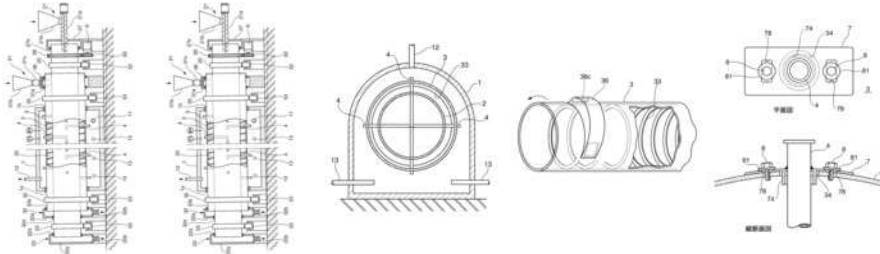
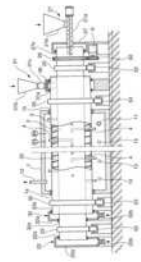
5. **Glass substrate production management system and glass substrate production management method** WO2015029847 2013-08-27 NIPPON ELECTRIC GLASS* 2015-03-05 2015-03-05

The invention is provided with: a first inspection means (A) for calculating a lot-average defect density on the basis of defect data obtained from one lot of ten or more multi-panel-yielding **glass** substrates (1) by sampling and inspecting ten or more thereof in an upstream-side step; an estimation means (B) for estimating a gain to be received by a **processor** of the upstream-side step and a loss to be sustained by a **processor** of a downstream-side step, by varying over multiple times the number of defects (4) present on one multi-panel-yielding **glass** substrate, and calculating, on the basis of these estimation results, an allowable defect number for the defects (4) present on one multi-panel-yielding **glass** substrate (1) when the gain exceeds the loss; a second inspection means (C) for inspecting the entire lot of multi-panel-yielding **glass** substrates (1) and counting the number of defects (4) present on one multi-panel-yielding **glass** substrate (1); and a quality determination means (D) for determining the quality of the multi-panel-yielding **glass** substrate (1).



6. Method for producing foamed glass JP2007238350 2006-03-06 HIROSHIMA GAS TECHNO* 2007-09-20 2007-09-20
METTSU*

PROBLEM TO BE SOLVED: To provide a method for producing foamed glass, wherein the fuel cost is extremely reduced by firing recycled glass using waste glass as a main raw material by burning a combustible gas generated by the dry distillation of combustible waste materials.
SOLUTION: The method for producing foamed glass is for producing foamed glass obtained by using waste glass as a main raw material. In the method, a heat treatment apparatus in which an inner rotary kiln (2) and an outer rotary kiln (3) are arranged as a first treating furnace and a second treating furnace, respectively, in a heating furnace (1) is used, and the combustible waste materials are supplied to the first treating furnace, and the recycled glass and a foaming agent are supplied to the second treating furnace. The dry distillation is performed in the first treating furnace and the recycled glass is fired in the second treating furnace by using the combustion heat, obtained by burning the combustible gas, generated by the dry distillation in the first treating furnace, in the heating furnace (1).
COPYRIGHT: (C)2007,JPO&INPIT

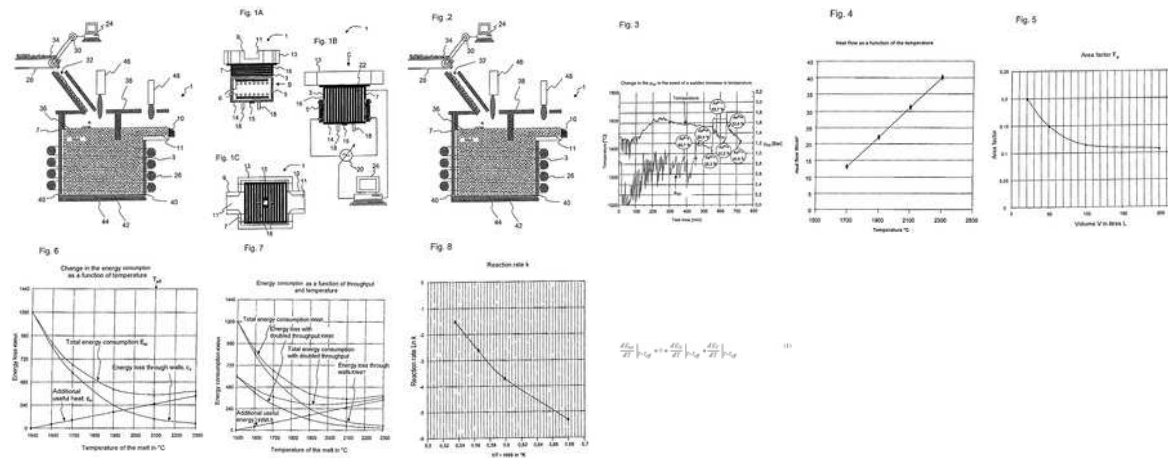
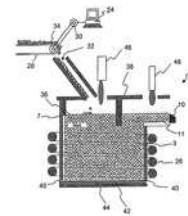


7. Processor and recuperator for waste glass and textile fibre IT8346859 1983-09-12 EUROMINERALI* 1983-09-12 1983-09-12

Low- and medium activity wastes comprising max. 50kg/m³ are treated by chemical pptn., filtration, pH adjustment, treatment of the soln. by selective reverse osmosis (boric acid/nitrates) followed by ion exchange sepn. of nitrate impurities from the radioactive boric acid portion, which can be returned to the chemical pptn. The recovered nitrate soln. can be used again

8. Melting and refining in baths with cooled walls WO2004087587 2003-04-02 SCHOTT* 2004-10-14 2004-10-14
SCHOTT GLAS
SHOT
ZEISS STIFTUNG

The aim of the invention is to reduce the energy required for melting in a unit provided with cooled walls. According to the invention, a method is provided for melting inorganic materials in a skull crucible, wherein the temperature of at least one area of the melt is selected in such a way that it ranges from Teff -20 % to Teff +20 %. The temperature Teff is defined by the temperature at which energy consumption per weight unit of melt is at a minimum. The through-put rate is selected in such a way that it is adapted to the required residence time.



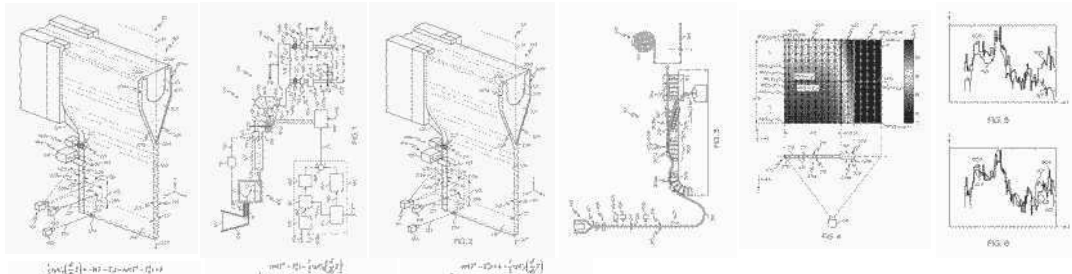
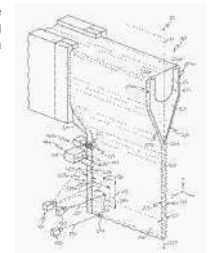
9. **Methods and apparatus for manufacturing glass** WO2017053843

2016-09-23

CORNING®

2017-03-30 2017-03-30

A **glass** manufacturing apparatus includes a **glass** former to form a **glass** ribbon from a quantity of molten material, a thermal sensor oriented to sense a temperature of the **glass** ribbon, and a **processor** programmed to estimate a thickness of the **glass** ribbon based on the sensed temperature from the thermal sensor. A method of manufacturing **glass** includes forming a **glass** ribbon from a quantity of molten material, sensing a temperature of the **glass** ribbon, and estimating a thickness of the **glass** ribbon based on the sensed temperature.



10. Method of recycling batches of mixed color cullet into amber, green, or flint glass with selected properties

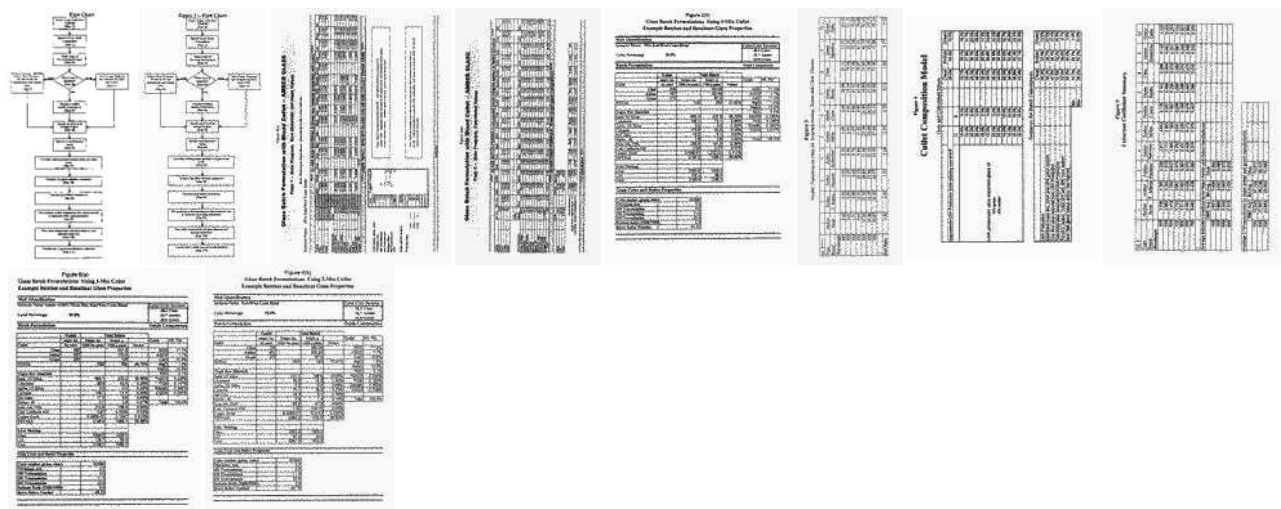
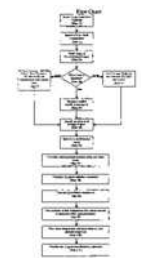
US20040078110

2003-10-09

CULCHROME*

2004-04-22	2004-04-22
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An automated method for recycling mixed colored cullet **glass** (i.e., broken pieces of **glass** of mixed colors and types) into new **glass** products. A computer controlled process identifies the virgin **glass** raw materials, the desired target **glass** properties, the composition of a batch of mixed colored cullet, and the quantity of cullet to be used in the **glass** melt, and the computer controlled process automatically determines the proper amounts of raw materials to add to the batch of mixed colored cullet so that recycled **glass** is produced having the desired coloring oxides, redox agents, and **glass** structural oxides in the proper proportion. The recycled **glass** is then used to make **glass** products such as beer bottles.



11. Production process of renewable heating-insulating fireproofing soundproof **glass** wool
CN102211862

2011-03-10

YINGKOU TIANZHILAN
ENVIRONMENTAL PROTECTION
FILTER MATERIALS*

2011-10-12 2011-10-12

The invention provides a production process of renewable heating-insulating fireproofing soundproof **glass** wool. The production process is characterized in that a **waste** filtration bag or cloth having a **glass** fiber component can be **selected** and leftover bits and pieces generated after the production of **glass** fiber manufacturer factory products can also be **selected**. The production process comprises the following steps: putting the washed **glass** fiber **waste** filtration bag or cloth in a high temperature drying case and then feeding the dust into a dust **processor**; dividing the dedusted bag or cloth into an equidistant strip shape with a striping machine; feeding the strip-shape **glass** cloth in an opener for opening and smashing; transporting the smashed **glass** fiber material which is opened and smashed by the opener in a discharging case through induced air; feeding the smashed **glass** fiber material into a combing machine for combing after the material passes through the discharging case; carrying out lapping and spreading glue on smashed **glass** fiber material after combing; and feeding lapped **glass** wool into the drying case for drying and shaping through a net curtain so as to obtain a finished product which is of cotton shape. The material has a strong heating-insulating fireproofing soundproof effect.



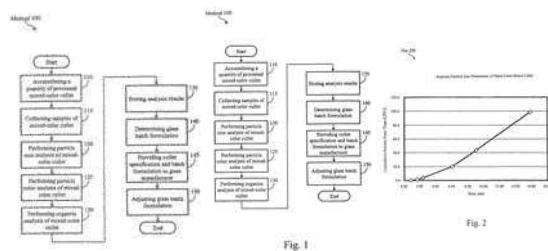
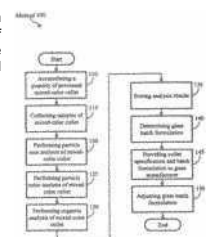
12. Batch analysis and optimization for **glass** manufacturing
WO2006053336

2004-11-12

CULCHROME*
KALCHROME

2006-05-18 2006-05-18

A method of determining the constituents and impurities in mixed-color cullet to facilitate use of mixed-color cullet in **glass** manufacture is provided. A **glass** batch formulation is adjusted based on the measured characteristics of supplied mixed-color cullet. More specifically, certain preferred aspects of the present invention include the steps of providing quantity of mixed-color cullet, collecting at least one sample of the mixed-color cullet, performing, either singularly or in combination, particle size analysis, particle color analysis, or organics analysis of the mixed-color cullet, optionally storing the analysis results, determining a **glass** batch formulation, providing the cullet specification and the batch formulation to a **glass** manufacturer, and adjusting **glass** batch formulation based on the cullet specification to ensure consistent **glass** quality.



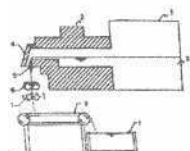
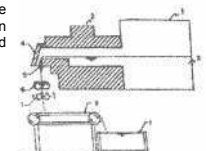
13. **Glass** treatment and treating device
JPH1149527

1997-07-29

TOSHIBA GLASS*

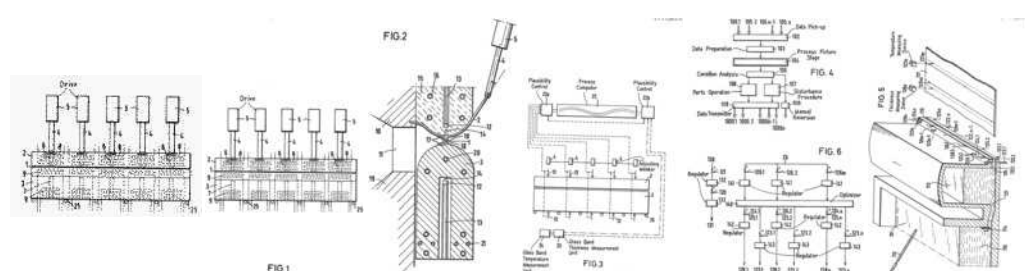
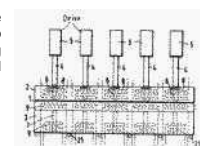
1999-02-23 1999-02-23

PROBLEM TO BE SOLVED: To eliminate the contact of **glass** and water, to prevent the discharge **waste** water contg. a **glass** component and to easily and inexpensively treat the **glass** by cooling the fused **glass** flowing down from a **glass** fusing furnace down to a **glass** transition temp. or below, then mechanically crushing the **glass** and air cooling the crushed **glass**. SOLUTION: The fused **glass** 3 contg. ≥ 1 kind of the element **selected** from preferably Pb, Ba, Sr and Sb fused in the **glass** fusing furnace 1 is subjected to temp. control by a fore hearth core 2 and the **glass** of the front layer part of the fused **glass** 3 is made to flow over from the outflow port 5 of an aperture 4 disposed at the side wall of part of the fore hearth core 2. This fused **glass** is allowed to flow down to a planar treating device 6 disposed right under the aperture 4. The fused **glass** is then cooled to the **glass** transition temp. or below by a pair of cylindrical rollers having water flow pipes therein and is pressed to a ribbon form. Next, the fused **glass** is introduced into a crushing device 7 arranged with a pair of impellers and is crushed. The crushed **glass** is air cooled in a transporting conveyor 8 and is recovered.



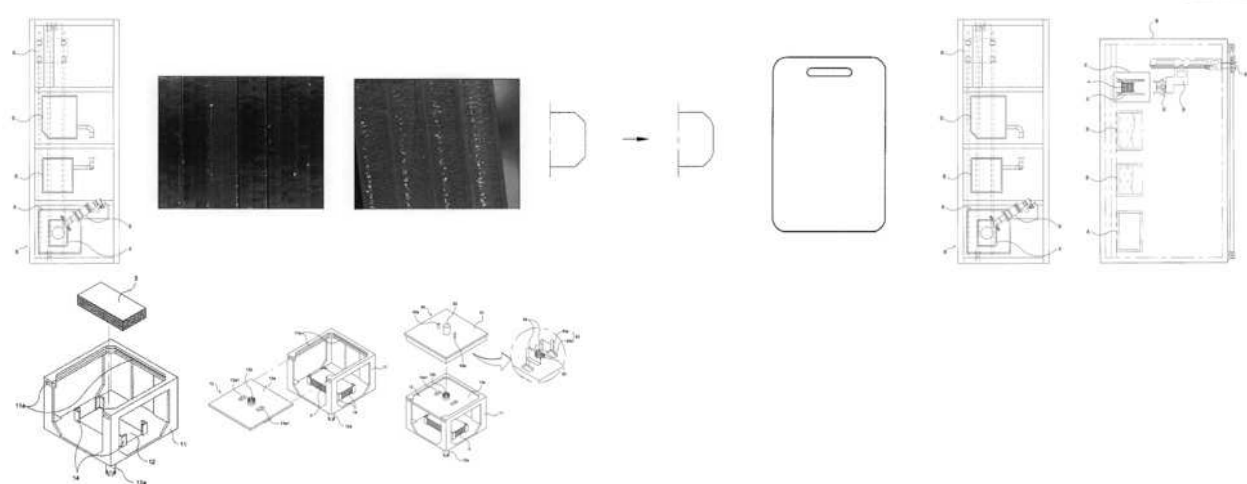
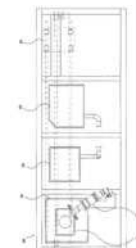
14. [Method and apparatus for production of plate glass](#) IT7851617 1978-10-24 DEUTZ* 1978-10-24 1978-10-24

A nozzle system is disclosed for the production of a wide band of flat plate **glass** in which the **glass** flows out of a nozzle orifice of a flat nozzle formed by two nozzle bars. One of the nozzle bars has a nozzle forming portion which is **selectively** elastically deformable. The other nozzle bar is of rigid construction. Deforming members are provided to **selectively** deform the one nozzle bar so as to reduce distortions occurring in the plate **glass** bands. The other nozzle bar is connected to an adjusting member for controlling an overall spacing with respect to the first nozzle bar so as to adjust overall **glass** thickness. A process computer may be employed to compare measuring values obtained from points along the deformable portion of the one nozzle bar with a model of a desired curvature stored in the computer.



15. [Reinforced glass processing system](#) CN104230173 2014-06-11 TAE SUNG ENGINEERING* TESSON ENGINEERING 2014-12-24 2014-12-24

PROBLEM TO BE SOLVED: To provide a reinforced **glass** processing system.SOLUTION: A reinforced **glass** processing system according to the present invention comprises: a cassette on which a plate of reinforced **glass** is loaded and which rotates the loaded reinforced **glass** plate about an original position axis; an upward/downward movement machine for moving the cassette upward and downward; a horizontal movement machine for moving the upward/downward movement machine horizontally; a chemical solution tank for applying chemical solution injection and side-end surface processing to the reinforced **glass** plate in the cassette transported by operation of the upward/downward movement machine and the horizontal movement machine; and a rinse tank for washing a side-end surface **processor** which processed the side-end surfaces of the reinforced **glass** plate subjected to chemical processing in the chemical solution tank and the reinforced **glass** plate on which side-end surface processing has completed.



16. Alkali-free glasses containing iron and tin as fining agents US20080110208 2006-11-13 CORNING* 2008-05-15 2008-05-15

Alkali-free glasses are disclosed which can be used to produce substrates for flat panel display devices, e.g., active matrix liquid crystal displays (AMLCDs). The glasses contain iron and tin as fining agents, and preferably are substantially free of arsenic and antimony. In certain embodiments, the glasses are also substantially free of barium. Methods for producing alkali-free glass sheets using a downdraw process (e.g., a fusion process) are also disclosed.

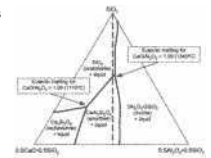


FIG. 1

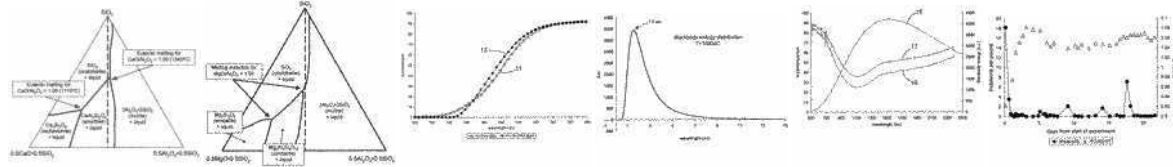


FIG. 2

FIG. 3

FIG. 4

FIG. 5

FIG. 6

FIG. 7

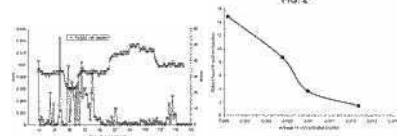


FIG. 8

FIG. 9

FIG. 10

FIG. 11

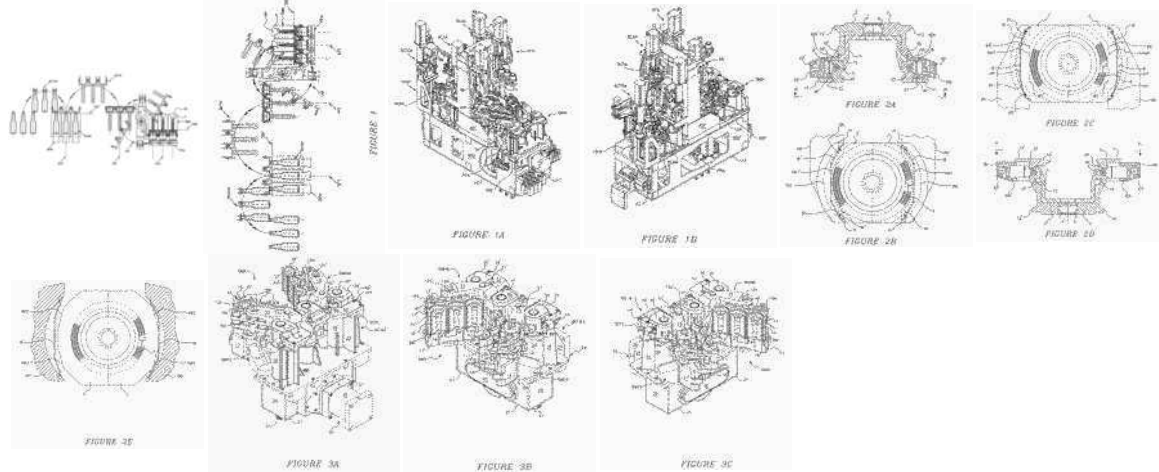
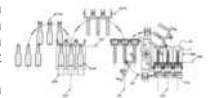
FIG. 12

FIG. 13

17. Transference apparatus and take-out mechanism US20030167799 2002-03-07 VITRO GLOBAL VITRO* 2003-09-11 2003-09-11

VITRO GLOBAL
VITRO*
VITRO GLOBAL ES A
VITRO GLOBLE S A

A method and a machine for the production of hollow glassware articles, by the blow-and-blow, press-and-blow, press-and-blow paste mold and direct-press processes in a glassware forming machine including single or multiple machine sections each having single or multiple-cavity, comprising: forming a parison in an inverted orientation, into a blank mold and a first transferable and openable neck ring mold held by an inverting apparatus having a first and a second diametrically opposed arms, each arm holding a transferable and open-able neck ring mold; inverting the parison held by the first transferable and open-able neck ring mold, by rotating the first arm 180° to an upright orientation at an intermediate station, while the second arm with a second transferable and open-able neck ring mold is simultaneously placed at the parison forming station; transferring the first transferable and open-able neck ring mold holding the parison in an upright orientation, from the intermediate station, to a blow mold station, by a transference apparatus; releasing the first parison into a blow mold, and turning back the first transferable and open-able neck ring mold empty to the first arm of the inverting apparatus, at the intermediate station to be placed again at the parison forming station by rotating the first arm additional 180°, completing a 360° turn, while the second arm reaches to the intermediate station; blowing the parison into a blow mold to form a finished article; and transferring the finished article in an upright orientation, once the blow mold is opened, by a take out apparatus, to place it at a dead plate or at a carrying conveyor.



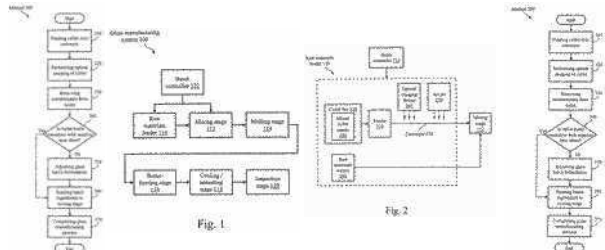
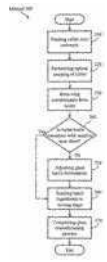
18. Batch analysis and optimization for glass manufacturing WO2006053335

2004-11-12

CULCHROME*
KALCHROME

2006-05-18 2006-05-18

Certain preferred embodiments of the present invention provide a system for and method of analyzing and cleaning a cullet stream prior to bottle manufacturing. In accordance with certain aspects of the present invention, the system includes a raw materials feeder, a mixing stage, a melting stage, a bottle-forming stage, a cooling/annealing stage, an inspection stage, and a batch controller. The raw materials feeder further includes a cullet bin within which is cullet supply, a feeder, an analysis device, and removal assembly. Certain preferred embodiments of the method include the steps of feeding cullet onto the conveyor, performing real-time composition analysis of the cullet, removing contaminants from the cullet, determining whether the cullet batch is consistent with a predetermined tolerance threshold, adjusting the glass batch formulation, sending the batch ingredients to the mixing stage, and then completing the overall glass manufacturing process.



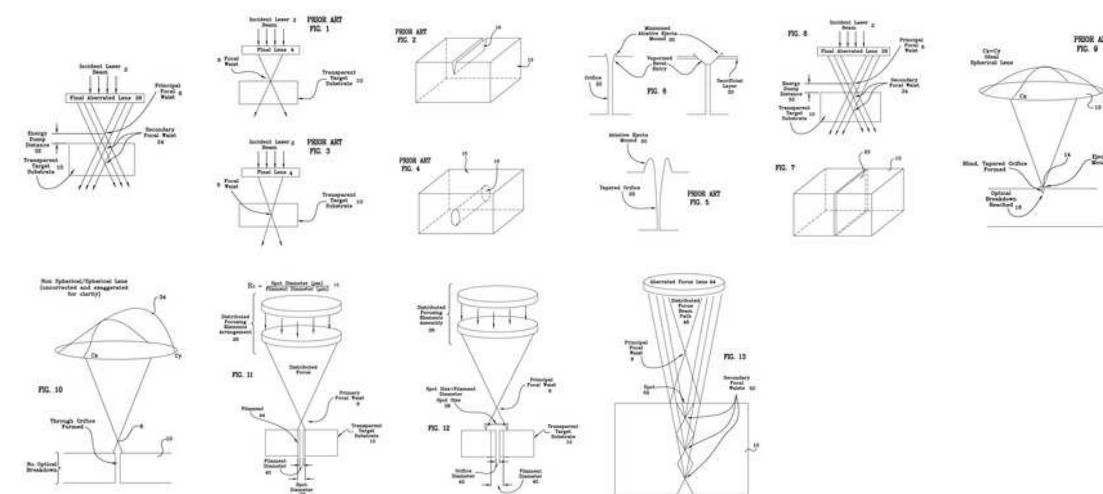
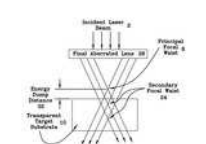
19. Method of fabricating a glass magnetic hard drive disk platter using filamentation by burst ultrafast laser pulses JP2015083320

2014-10-10

ROFIN SINAR TECHNOLOGIES*
ROOFFIN GINAL TECHNOLOGIES

2015-04-30 2015-04-30

A non-ablative method and apparatus for making an economical glass hard disk (platter) for a computer hard disk drive (HDD) using a material machining technique involving filamentation by burst ultrafast laser pulses. Two related methods disclosed, differing only in whether the glass substrate the HDD platter is to be cut from has been coated with all the necessary material layers to function as a magnetic media in a computer's hard drive. Platter blanks are precisely cut using filamentation by burst ultrafast laser pulses such that the blank's edges need not be ground, the platter's geometric circularity need not be corrected and there is no need for further surface polishing. Thus the platters can be cut from raw glass or coated glass. As a result, this method reduces the product contamination, speeds up production, and realizes great reductions in the quantity of waste materials and lower production costs.



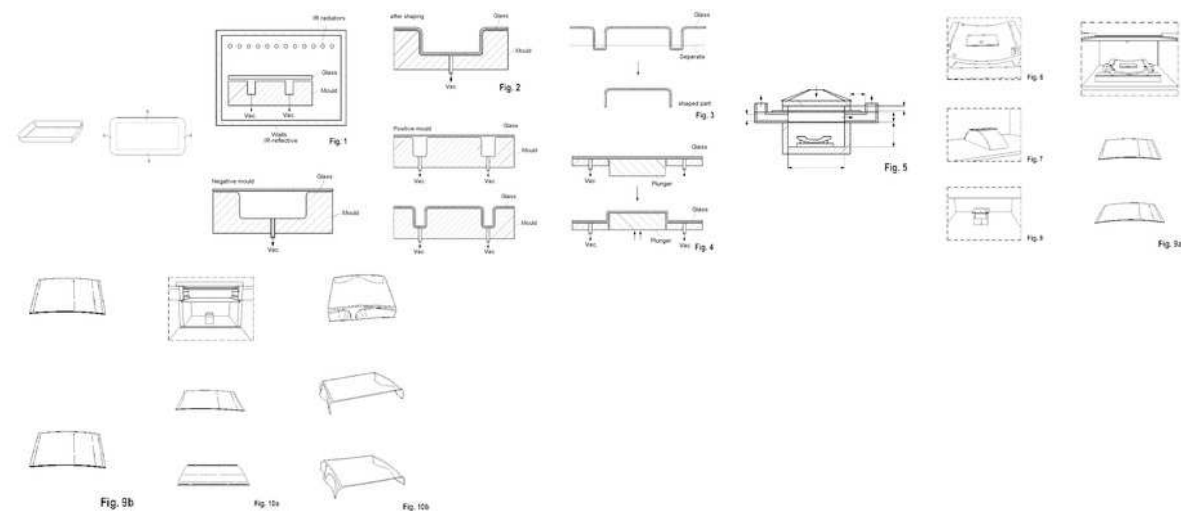
20. Method for manufacturing molded glass articles, and use of the glass articles manufactured according to the method WO2011141295

2010-05-12

SCHOTT*

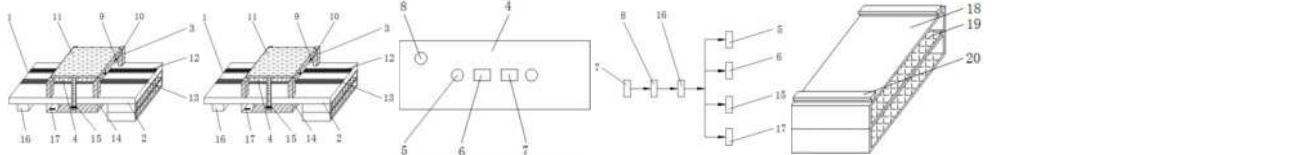
2011-11-17 2011-11-17

Described are five methods for manufacturing molded glass articles with a defined geometry, and the use of the manufactured glass articles. Here, method 1 has at least the following steps: arranging a glass plate on a mold, heating the glass plate by means of infrared radiation, in particular by means of short-wave or medium-wave infrared radiation, in a heating unit, deforming the heated glass plate over the mold by the application of an external force, in particular by means of gravity, by means of a vacuum and/or by means of positive pressure, cooling the molded glass plate so as to obtain the molded glass article of defined geometry.



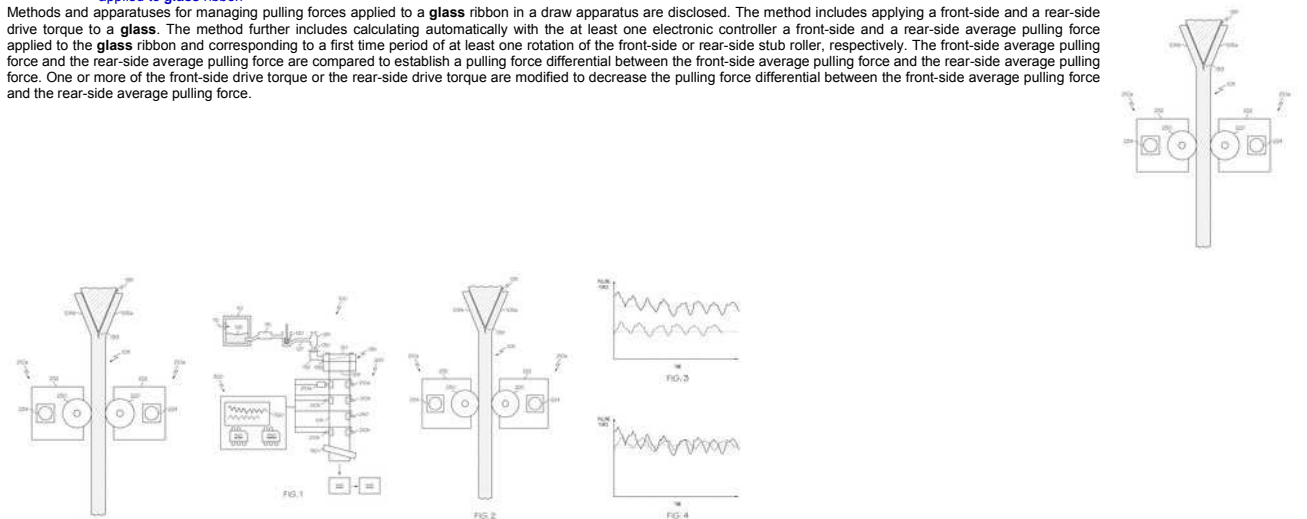
21. **Solar glass tube cutting device for processing hydraulic equipment** CN107522393 2017-07-29 CONNAUGHT XIN AUTOMATION EQUIPMENT* 2017-12-29 2017-12-29

The invention discloses a solar **glass** tube cutting device for processing hydraulic equipment. The solar **glass** tube cutting device comprises a device body; two cutting water guns are arranged at the middle part of a supporting plate; a water pressure transformer, a length measurer and a DPS (digital signal **processor**) are arranged between the cutting water guns; a telescopic supporting pillar is arranged at one end of the supporting plate; a fixing clamp is arranged at the bottom end of the telescopic supporting pillar; two limiting grooves are formed in the surface of an operation table; a conveying belt is arranged at the bottom end of each limiting groove; a circulating water tank is arranged at the bottom end of the operation table. According to the solar **glass** tube cutting device disclosed by the invention, the two cutting water guns are arranged at the middle part of the supporting plate, and the water pressure transformer, the length measurer and the DPS are arranged between the cutting water guns; the two cutting water guns are arranged for simultaneously operating, so that the time is saved and the working efficiency is improved; in addition, the pressure intensity of the cutting water guns is conveniently adjusted by the water pressure transformer, and cutting is facilitated; meanwhile, the length measurer is used for conveniently measuring the lengths of solar **glass** tubes, so that resources are saved.



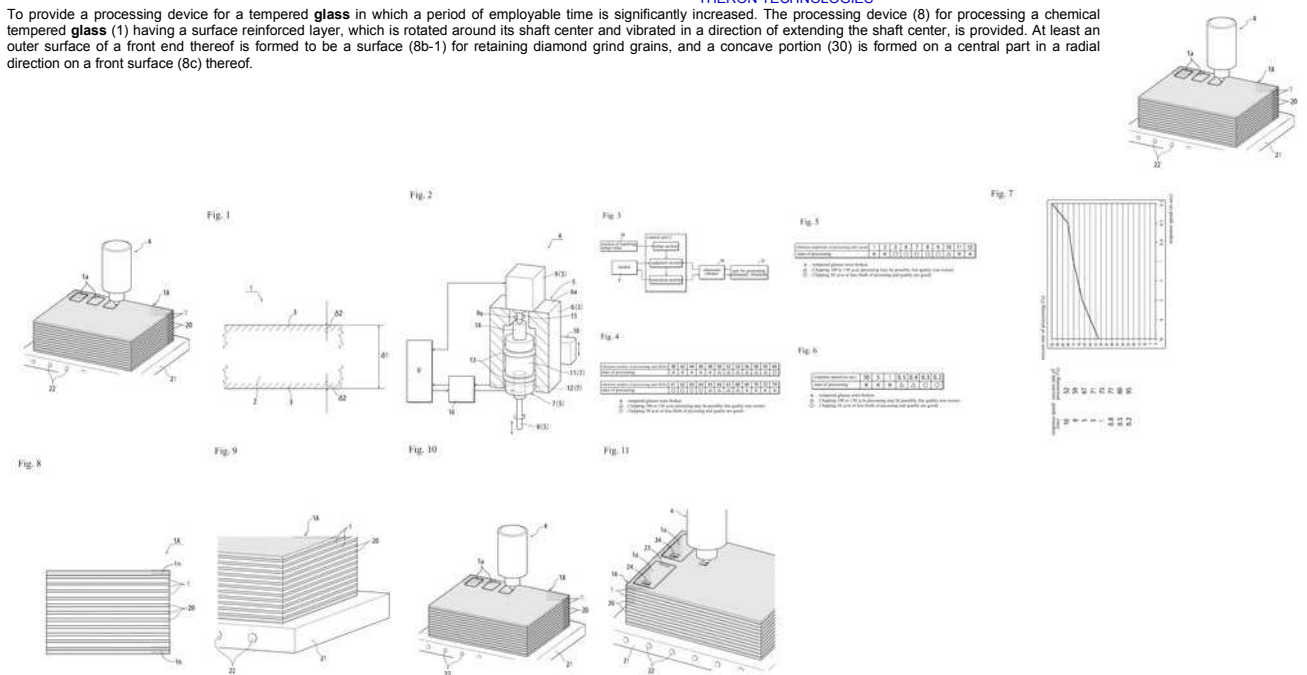
22. **Apparatuses for manufacturing glass and methods of managing pulling forces applied to glass ribbon** US20140083138 2012-09-25 COMPANY INCORPORATED CORNING* 2014-03-27 2014-03-27

Methods and apparatuses for managing pulling forces applied to a **glass** ribbon in a draw apparatus are disclosed. The method includes applying a front-side and a rear-side drive torque to a **glass**. The method further includes calculating automatically with the at least one electronic controller a front-side and a rear-side average pulling force applied to the **glass** ribbon and corresponding to a first time period of at least one rotation of the front-side or rear-side stub roller, respectively. The front-side average pulling force and the rear-side average pulling force are compared to establish a pulling force differential between the front-side average pulling force and the rear-side average pulling force. One or more of the front-side drive torque or the rear-side drive torque are modified to decrease the pulling force differential between the front-side average pulling force and the rear-side average pulling force.



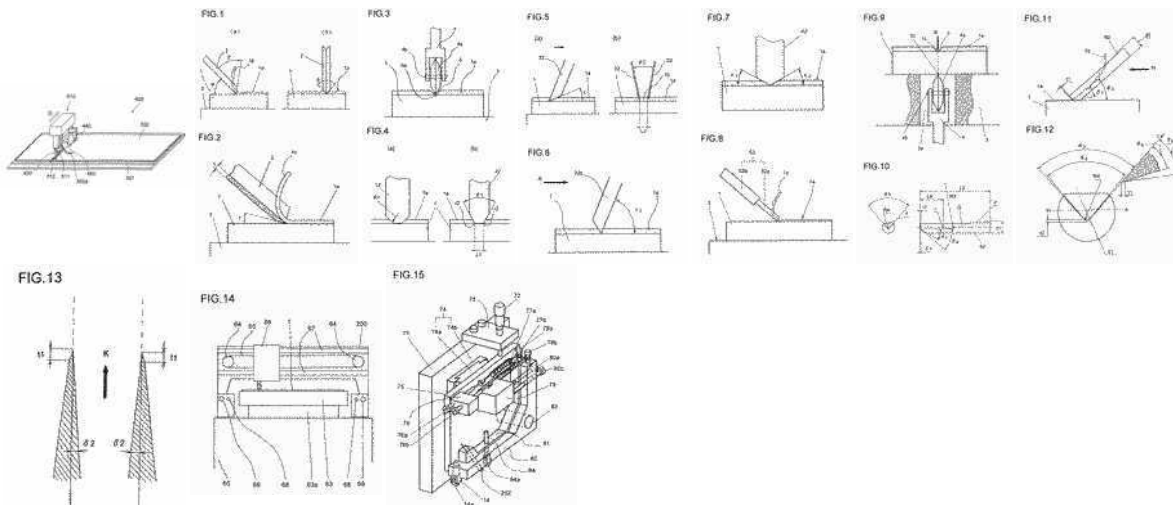
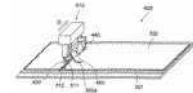
23. **Method and apparatus for processing tempered glass** JP5422756 2012-08-31 CERON TECHNOLOGIES* CERON TECHNOLOGY THERON TECHNOLOGIES 2014-02-19 2014-02-19

To provide a processing device for a tempered **glass** in which a period of employable time is significantly increased. The processing device (8) for processing a chemical tempered **glass** (1) having a surface reinforced layer, which is rotated around its shaft center and vibrated in a direction of extending the shaft center, is provided. At least an outer surface of a front end thereof is formed to be a surface (8b-1) for retaining diamond grind grains, and a concave portion (30) is formed on a central part in a radial direction on a front surface (8c) thereof.



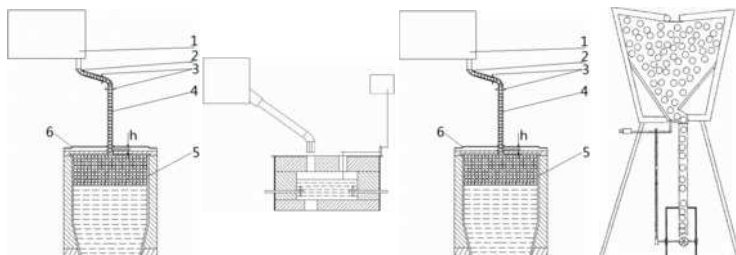
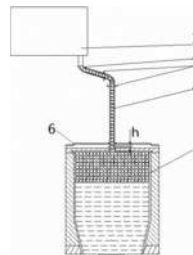
24. Method and device for parting **glass** substrate, liquid crystal panel, and liquid crystal panel manufacturing device WO03040049 2002-11-05 CITIZEN SEIMITSU KAWAGUCHIKO PRECISION KAWAGUCHIKO SEIMITSU SHARP* 2003-05-15 2003-05-15

A method and a device for parting a **glass** substrate not affected by the presence or absence of a film layer and the film thickness thereof and capable of scribing the **glass** substrate without damaging the film, the device comprising a peeling means 202 functioning as a cutter to remove a part of the film layer 1a such as a thin film and a resin film formed on one surface of the **glass** substrate 1 to expose the **glass** substrate 1 in a band shape and a wheel cutter 14a for forming a scribe for parting along the band-shaped area of the exposed **glass** substrate 1 the method comprising the step of parting the **glass** substrate 1 along the scribe.



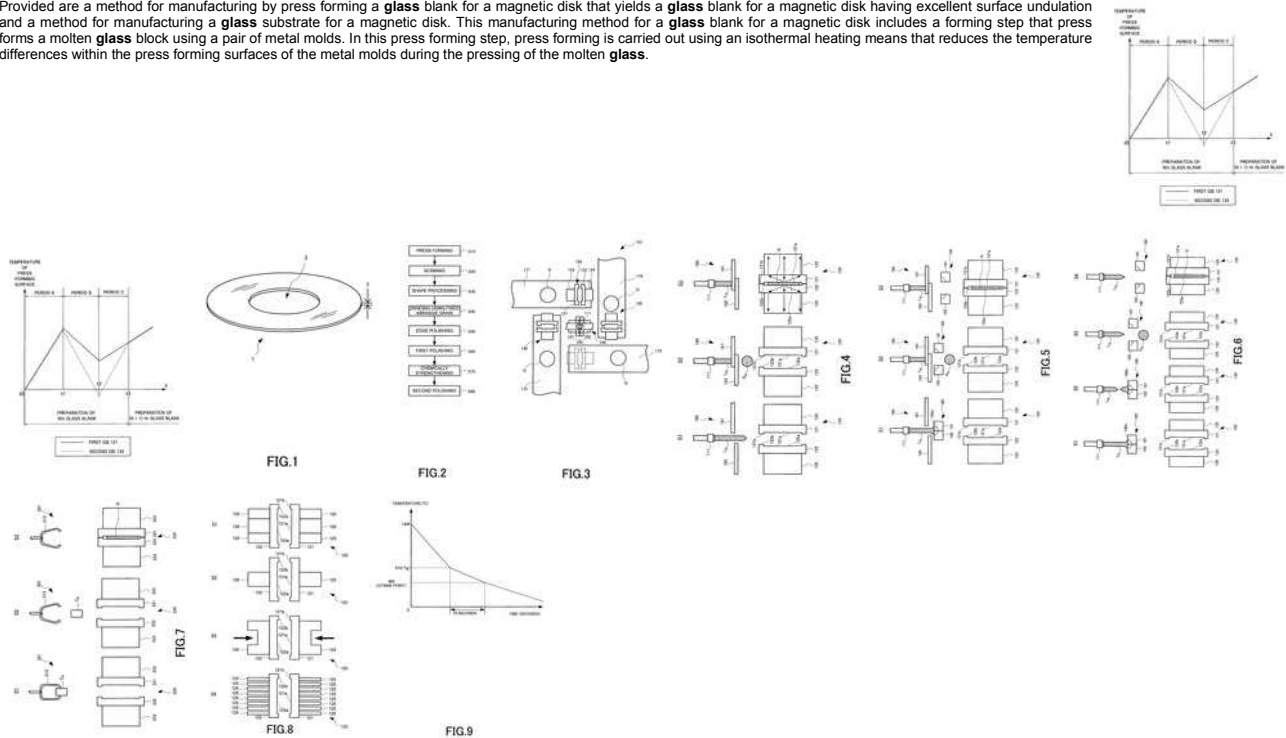
25. Utilize crucible **waste** heat to preheat device of wire drawing ball material CN206486420 2016-12-30 SHANXI HUATECK FIBERGLASS* 2017-09-12 2017-09-12

The utility model provides an utilize crucible **waste** heat to preheat device of wire drawing ball material, includes hopper, spring pipe, resilient mount, feeds bulb, crucible and bracket. Wherein, there is 1-2 play ball mouth the hopper bottom, be connected with the spring pipe on the mouth of pipe of play ball mouth. Feed the upper end of bulb and the other end intercommunication of spring pipe, the ball hole of feeding on lower extreme and the bracket communicates. The tripod upper surface at the crucible is laid to the bracket to make on this bracket respectively feed the ball hole respectively with the crucible on to feed the ball hole concentric. When feeding in raw material, the **glass** ball is incessant to flowing in the crucible in succession, makes **glass** ball material be full of the whole cavity more than the interior **glass** liquid level of crucible, and the **waste** heat with the charging system preheats **glass** ball material simultaneously, makes the **glass** ball expect to be in fused state gradually to carry out the shutoff to the ball hole that adds at crucible top through the **glass** ball, saved the power consumption of smelting pot, shortened the melting time of ball material, and solved and add the ball ration and forbidden the liquid level temperature fluctuations problem that leads to, make the ball material melt more evenly.



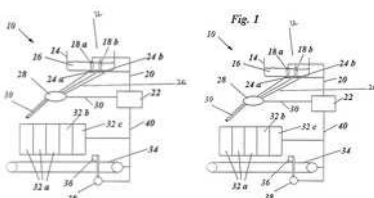
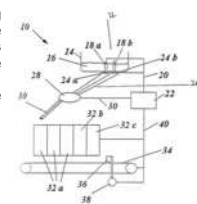
26. Method for manufacturing glass blank for WO2012144237 2012-04-20 HOYA* 2012-10-26 2012-10-26
magnetic disk, method for manufacturing glass substrate for magnetic disk, glass blank for magnetic disk, glass substrate for magnetic disk, and magnetic disk

Provided are a method for manufacturing by press forming a glass blank for a magnetic disk that yields a glass blank for a magnetic disk having excellent surface undulation and a method for manufacturing a glass substrate for a magnetic disk. This manufacturing method for a glass blank for a magnetic disk includes a forming step that press forms a molten glass block using a pair of metal molds. In this press forming step, press forming is carried out using an isothermal heating means that reduces the temperature differences within the press forming surfaces of the metal molds during the pressing of the molten glass.



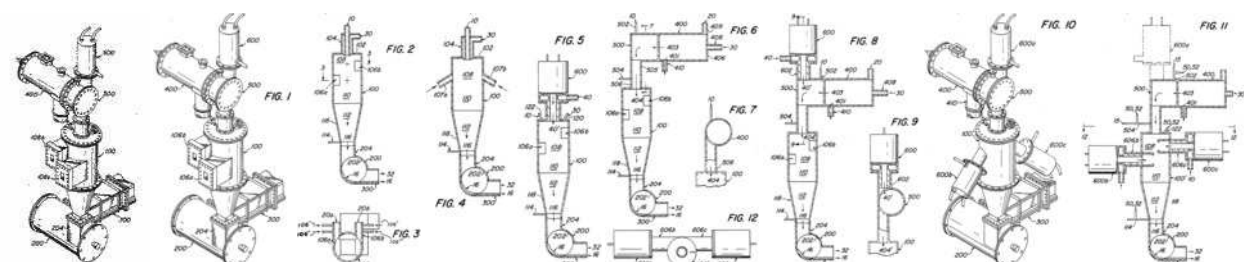
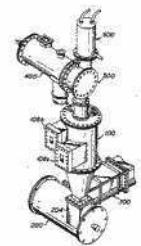
27. Process and apparatus for simultaneous production of glass products of differing weight EP1266869 2001-06-12 GLAS HEINZ* 2002-12-18 2002-12-18
HEINZ GLAS*
HEINZ GRASSE GESELLSCHAFT A.
MITT A. BESHRENTKELE A. HUTZUNG
GERMANY COUNTRY 9 6 3 3 5
KLEINETTA U GRASSE HUTTEN PLAT 3

Device for producing hollow glass products of different composition comprises: a storage arrangement consisting of a glass reservoir (14), a plunger (18a, 18b) and a cutting device (24a, 24b); a feed unit (28) for conveying glass gob from storage arrangement into several molding units (32a, 32b, 32c); and a control device (22) for controlling the plunger, the feed unit and the molding units. Device for producing hollow glass products of different composition comprises: a storage arrangement consisting of a glass reservoir (14), a plunger (18a, 18b) and a cutting device (24a, 24b) in the outlet of the reservoir; a feed unit (28) for successively conveying glass gob from the storage arrangement into several molding units (32a, 32b, 32c) arranged next to each other; and a control device (22) for controlling the plunger, the feed unit and the molding units. Preferred Features: A separation device is used for separating selected products from the products formed in the molding units. The separation device is connected to the control device.



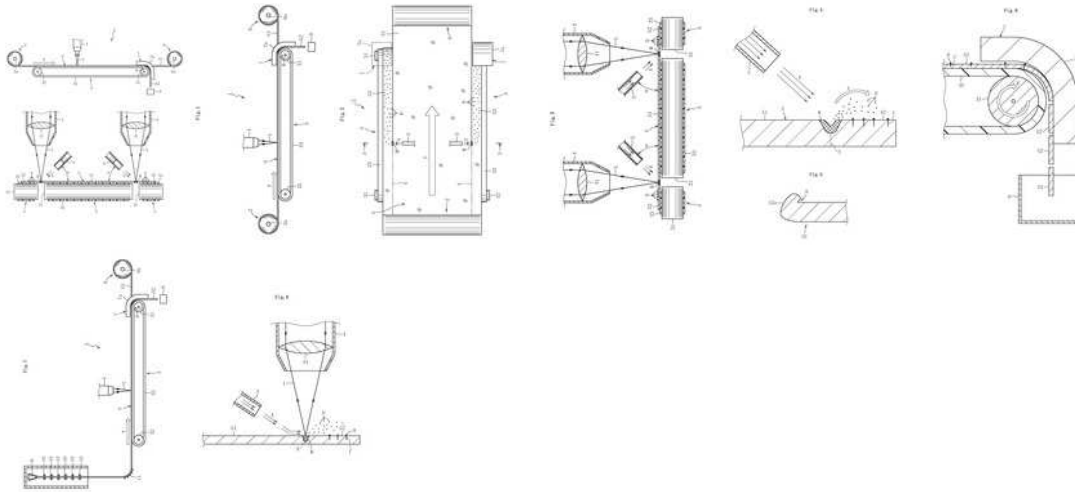
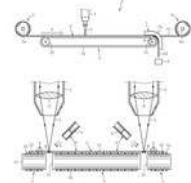
28. Method and apparatus for heat processing glass batch materials CA2050323 1989-03-08 HNAT JAMES G* 1990-09-09 1990-09-09
James Nath

An apparatus and method are disclosed for processing glass-making materials under oxidizing conditions, and for processing materials, such as hazardous or toxic wastes, or smelting under reducing conditions. As a glass-making apparatus the invention includes a cyclone melt reactor for forming a liquid glass melt and a combustion preheater for receiving the glass-making materials and combusting the fuel and oxidant therein to heat the glass batch materials to a temperature at least equal to the melt temperature of the glass batch material. The combustion preheater has an outlet connected to the glass melt reactor, and at least one inlet is provided into the combustion preheater for introducing oxidizing materials and for creating a well-stirred region within the combustion preheater means. Supplemental heat can be provided by introducing a heated transfer gas into the combustion preheater, and a fuel gasifier can be provided for producing a fuel gas before the fuel gas is injected into the combustion preheater. For processing materials under reducing conditions, the cyclone melt reactor is connected to a preheater/reducing chamber and preheated reducing gas is introduced into the reducing chamber in such a manner that a well-stirred region is created within the reducing chamber. Heated transfer gas from a supplemental heat source and reducing gas from a fuel gasifier can also be introduced into the reducing chamber.



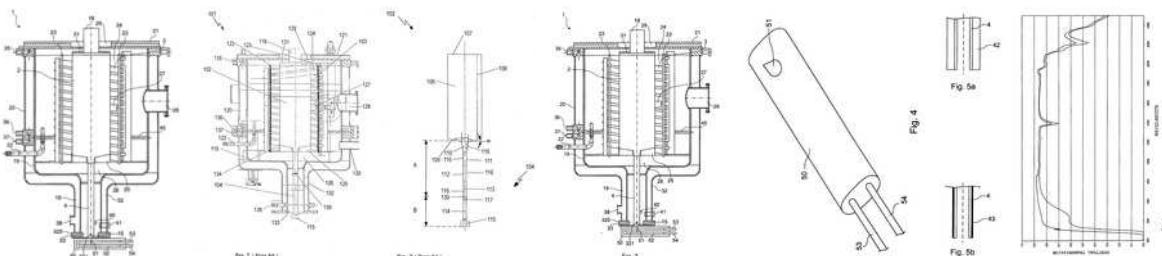
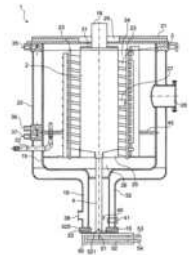
29. **Sheet glass manufacturing method and manufacturing device** WO2014077117 2013-10-29 NIPPON ELECTRIC GLASS* 2014-05-22 2014-05-22

This sheet glass manufacturing method involves: irradiating a glass ribbon (G) with laser beams (L) along cutting lines (X), which are the boundaries between a product section (G1) that is used as a product, and non-product sections (G2) that are discarded; spraying an assist gas (A) on molten glass (M) that has been melted by the heat of the laser beams (L), and removing the molten glass (M) by scattering, thereby thermally cutting the glass ribbon (G); and then breaking and discarding the non-product section (G2). By spraying the assist gas (A) from the product section (G1) side using the cutting line (X) as a reference, the scattered molten glass (M) is made to adhere to the non-product section (G2) as dross (D).



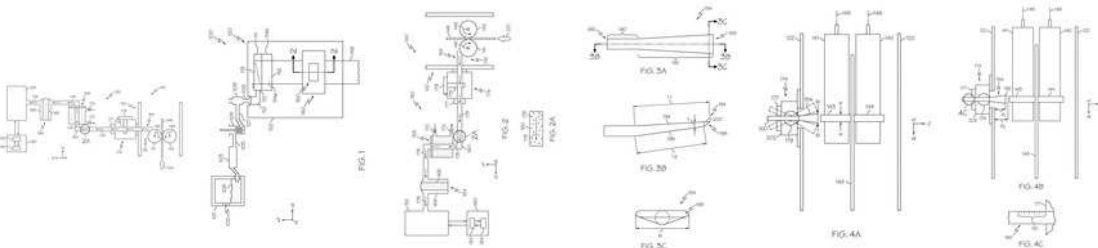
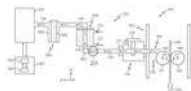
30. **Apparatus and method for the production of high-melting glass materials or glass ceramic materials** GB0808466 2007-05-18 SCHOTT* 2008-06-18 2008-06-18

The invention relates to a method and apparatus for the production of high-melting glass materials or high-melting glass ceramic materials by a process during which a temperature of a molten mass exceeds 1,760° C., wherein a shard material or raw material is molten to a molten mass, the molten mass is fined, and the molten mass emerges via a tubular outlet made of iridium or an iridium alloy having an iridium content of at least 50 wt.-%. According to the invention the temperature of a section of said tubular outlet, which is in contact with the ambient atmosphere having a natural gas composition, is controlled or regulated such that said temperature is held below 1,000° C. except during pouring out the molten mass out of said tubular outlet. Thus, an oxidative decomposition of the apparatus can be prevented.



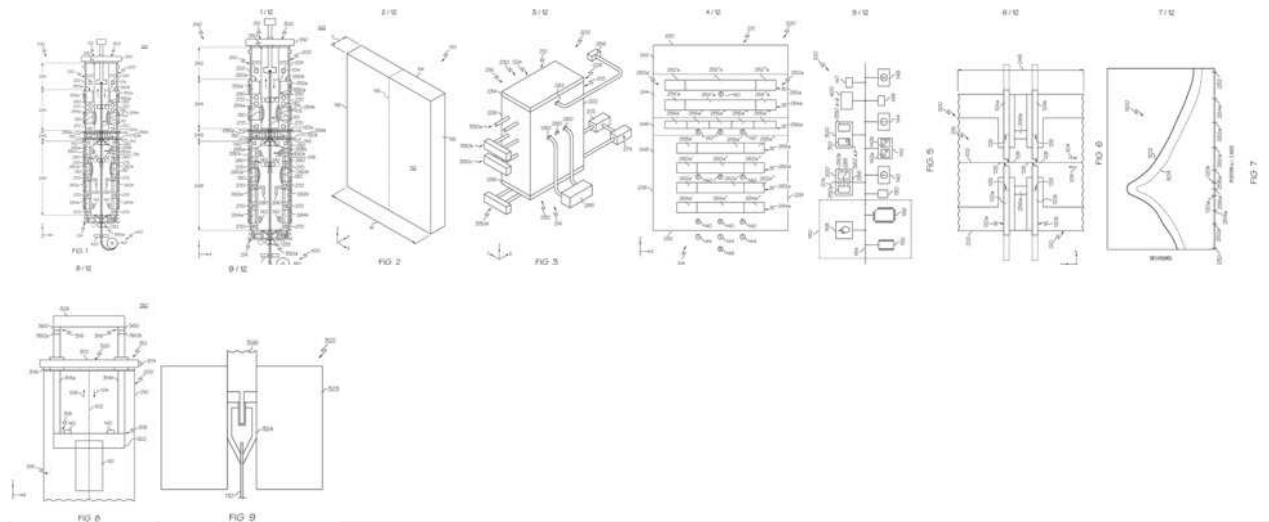
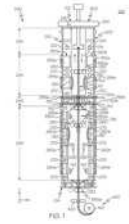
31. **Glass manufacturing apparatuses with particulate removal devices and methods of using the same** US20120131956 2010-11-29 CORNING* 2012-05-31 2012-05-31

Glass manufacturing apparatuses with particulate removal devices and methods for using the same are disclosed. In one embodiment, a fusion draw machine for forming a glass web from molten glass includes an enclosure and a first pull roll and a second pull roll rotatably positioned in an interior of an enclosure. The first pull roll and the second pull roll cooperate to draw a glass web in a draw direction. A particulate removal device for removing particulate matter from the interior of the enclosure is fluidly coupled to the enclosure and includes a vacuum nozzle disposed in the interior of the enclosure and fluidly coupled to a vacuum source with a vacuum line. A particulate filter is fluidly coupled to the vacuum nozzle and the vacuum source and traps particulate matter exhausted from the interior of the enclosure through the vacuum nozzle.



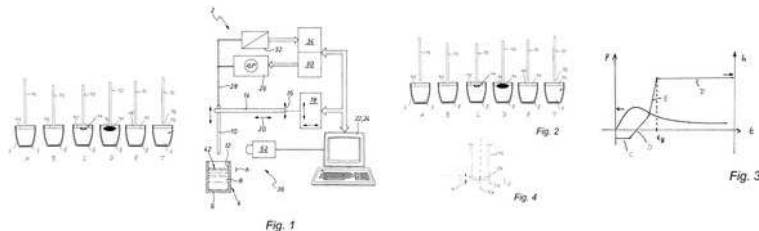
32. **Glass redraw system and methods of forming a thin glass sheet using a glass redraw system** WO2017095791 2016-11-29 CORNING* 2017-06-08 2017-06-08

A glass redraw system including a redraw furnace having a furnace enclosure with a furnace channel extending between a furnace inlet and a furnace outlet, an attenuation heating unit coupled to the furnace enclosure, a preheating zone positioned between the furnace inlet and the attenuation heating unit, and an annealing zone positioned between the furnace outlet and the attenuation heating unit. The glass redraw system further including one or more thermal alteration gates coupled to the furnace enclosure and extending into the furnace channel between the attenuation heating unit and one of the preheating zone or the annealing zone to inhibit heat transfer along the furnace channel between the attenuation heating unit and the one of the preheating zone or the annealing zone.



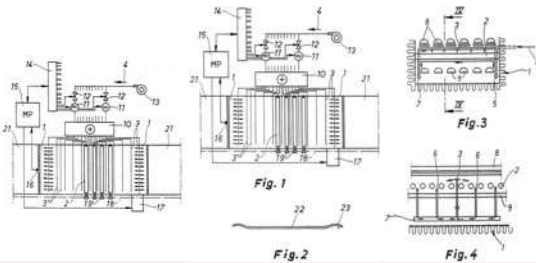
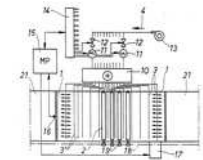
33. **Method for manufacturing a glass assembly and apparatus for executing the method** US20160137541 2014-11-13 ENDRESS HAUSER CONDUCTA* 2016-05-19 2016-05-19

A method for manufacturing a glass assembly comprises the steps: lowering of a dip pipe that gas may flow through vertically to the surface of a glass melt; determining when the surface of the glass melt is encountered by the dip pipe end showing towards the glass melt by detecting an increase of the gas pressure found inside the dip pipe; continued lowering of the dip pipe until a predetermined depth of entry of the dip pipe end showing towards the glass melt is reached; obtaining a predetermined pressure inside the dip pipe while the dip pipe first stays at the given immersion depth for the given duration and after the predetermined duration is completed, is lifted with a given speed vertically to the surface of the glass melt, thus creating a gas bubble in the glass melt whose walls are attached to the end of the dip pipe; continued lifting of the dip pipe vertically to the surface of the glass melt until the gas bubble is separated from the glass melt, with the wall of the gas bubble remaining at the dip pipe end as a closing film; and setting, especially controlling and/or adjusting of the pressure inside the dip pipe based on the geometry of the film closing the end of the dip pipe as determined by an image capturing device.



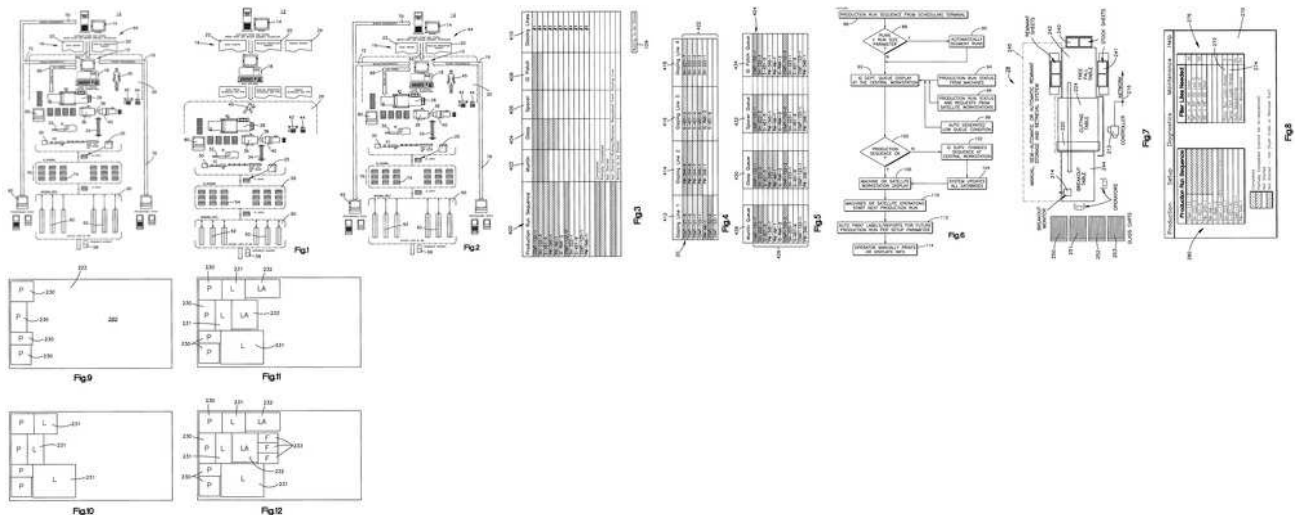
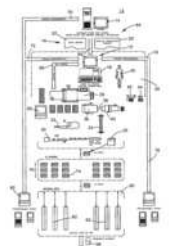
37. Method and apparatus for equalizing the temperature profile of glass sheets in a roller-equipped furnace included in a horizontal tempering plant. FI906398 1990-12-27 TAMGLASS TAMGLASS ENGINEERING* 1990-12-27 1990-12-27

The invention relates to a method and apparatus for equalizing the temperature profile of glass sheets in a roller-equipped furnace included in a horizontal tempering plant. At least in the early stage of a heating cycle, the upper surface of a glass sheet is exposed to an intensified convection heat effect by blasting air into the furnace from blasting pipes (3) located close to the upper surface of a glass sheet. This blasting compensates for the vigorous heat transfer to the lower surface of a glass sheet in the early stage of a heating cycle, which is caused by hot rollers. The blasting range and spot is manoeuvred in the longitudinal direction of a furnace in a manner that, at any given time, the blasting is only applied to that longitudinal section of a furnace in which a movable glass sheet is located at a given time.



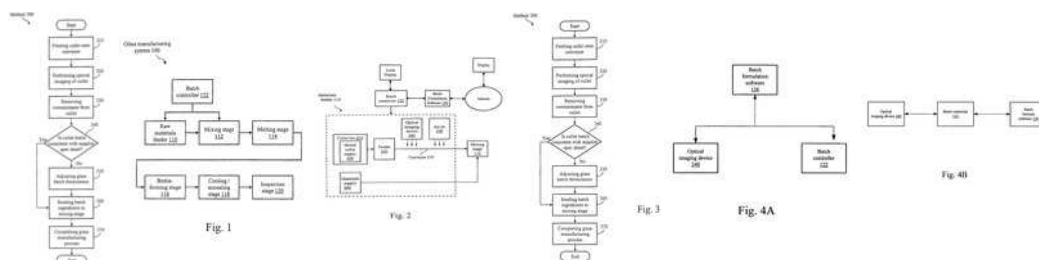
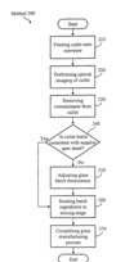
38. Glass optimization CA2467436 2003-10-17 GED INTEGRATED SOLUTIONS* GLASS EQUIPMENT DEVELOPMENT 2004-11-20 2004-11-20

A glass cutting station having a controller that lays out a pattern of lites to be cut from set of glass sheets to fulfill the lite requirements of a multiple number of cutting batches. The controller identifies one or more underutilized glass sheets in a first set of glass sheets that have free space with no lites designated to be cut in the first batch. The controller also lays out a pattern of lites to be cut to fulfill the lite requirements of an additional or second batch in the number of batches by utilizing at least some of the free space on the underutilized glass sheets of the first set of glass sheets. Additionally the controller designates other glass sheets from which to cut other lites in the additional batch. If, after this process is performed, additional free space is identified, the controller can continue to lay out the sheet with standard or filler lites that fill up the additional underutilized space of a glass sheet.



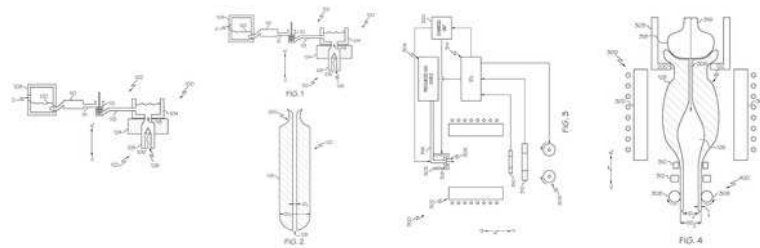
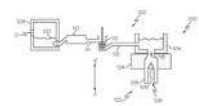
39. Methods and system for glass batch formulation including mixed cullet and glass manufacturing US20060230787 2005-10-14 CULCHROME* 2006-10-19 2006-10-19

A system for and method of analyzing a cullet stream prior to batch formulation in glass manufacturing. Cullet is fed onto a conveyor where a real-time composition analysis is performed. Contaminants are optionally removed, and a determination is made as to whether the cullet batch color is consistent with a predetermined tolerance threshold. If necessary, the glass batch formulation is modified in view of the cullet analysis. Virgin raw materials requirements of the modified glass batch formulation may then be communicated to the batch controller before sending batch ingredients to the mixing stage and completing the overall glass manufacturing process.



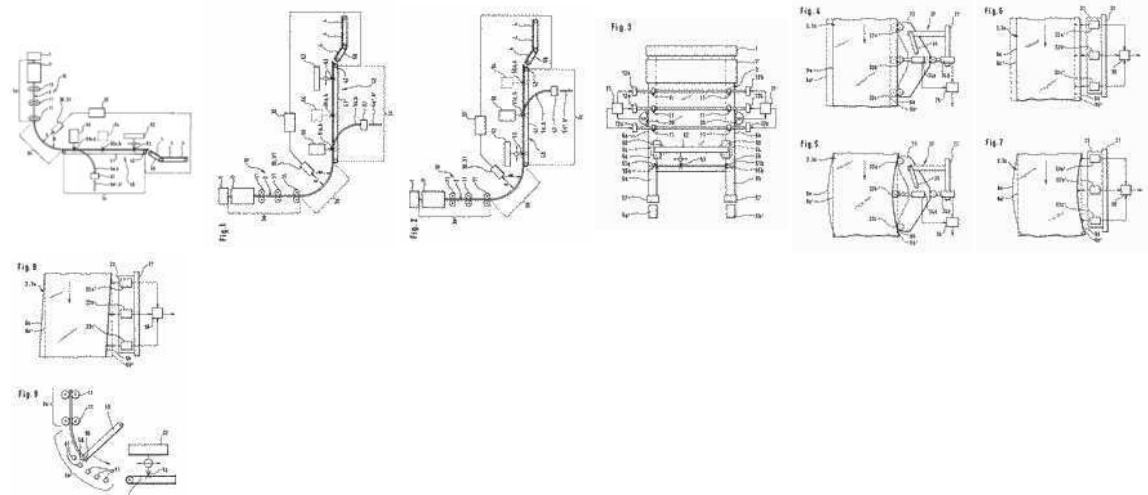
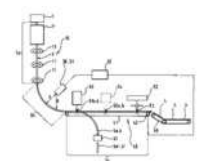
40. Method and apparatus for forming glass tubing from glass preforms US20170349474 2017-06-07 CORNING* 2017-12-07 2017-12-07

Methods of forming a glass tube are described. In one embodiment, the method includes heating a glass boule to a temperature above a glass transition temperature of the glass boule, drawing the glass tube from the glass boule in a vertically downward direction, and flowing a pressurized gas through a channel of the glass boule as the glass tube is drawn. The glass boule includes an outer surface defining an outer diameter of the glass boule and a channel extending through the glass boule defining an inner diameter of the glass boule. Drawing the glass tube decreases the outer diameter of the glass boule to an outer diameter of the glass tube and flowing the pressurized gas through the channel increases the inner diameter of the glass boule to an inner diameter of the glass tube. Glass boules, glass tubes, and apparatuses for making the same are also described.



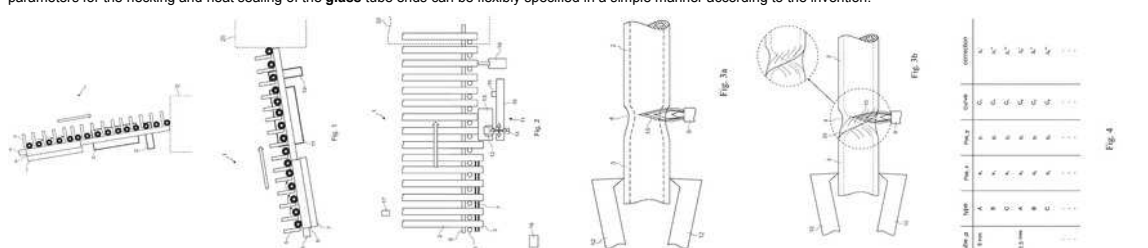
41. Method and apparatus for making single glass sheets EP1048621 1999-04-27 CARL ZEISS SCHOTT* SCHOTT GLAS ZEISS STIFTUNG 2000-11-02 2000-11-02

Individual glass sheet production comprises diverting cooled vertical molded strip to the horizontal and then cutting. Production of 0.03-2 mm thick individual glass sheets comprises downwards withdrawal of a glass strip from a hot molding un cooling of the withdrawn strip to below its lower strain point, diverting the strip to the horizontal in a freely suspended mann while maintaining a diversion radius of 0.1-4 m and edge trimming and/or cutting of the horizontal strip into lengths. An Independent claim is also included for an installation for carrying out the above process.



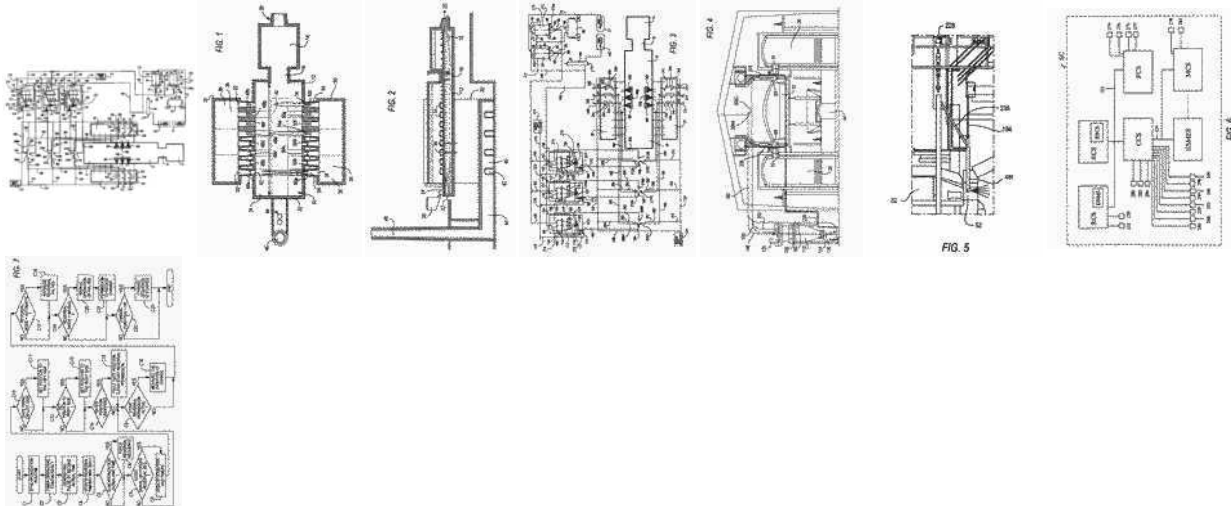
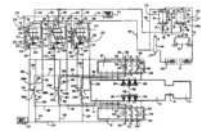
42. Method and device for the heat sealing of glass tubes DE102012109189 2012-09-27 SCHOTT* SCHOTT SCHOTT 2014-03-27 2014-03-27

In a method for the heat sealing of glass tubes (2), the glass tube (2) is softened at a separating point adjacent to an end section (3) of said glass tube and the glass tube is rotated around the longitudinal axis thereof and heated in this manner until a heat-softened state is reached in which the end section (3) is separated. According to the invention, the heat-softened end section of the glass tube is pulled away from the separating point by means of a pull-off device (11), which is preferably non-rotatably mounted, in such a way that the glass tube (2) is simultaneously heat sealed at the separating point during the separating process. Because of the rotation of the tube (2) on the conveyor belt, simple linear softening burners (9) can be used beneath the tubes (2) in place of ring burners. Superimposing the rotation of the tube (2) with the preferably stationary fixed end section (3) of the glass tube results in a more uniform necking of the end section (3) and thus a more homogeneous seal. In particular, the process parameters for the necking and heat sealing of the glass tube ends can be flexibly specified in a simple manner according to the invention.



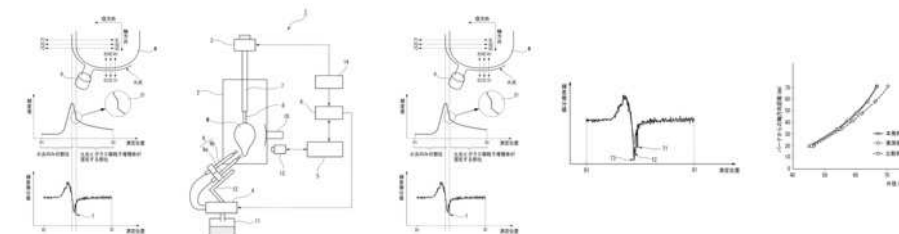
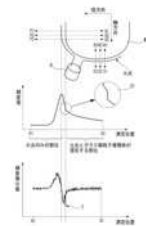
45. Control system for controlling the feeding and burning of a pulverized fuel in a glass melting furnace US20040060490 2002-10-01 VITRO GLOBAL* VITRO GLOBAL ES A SWITZERLAND SE 17 2 6 GIVISIEZ ROOT DUMONT CARMEL 1 VITRO GLOBAL S A VITRO GLOBLE S A 2004-04-01 2004-04-01

A control system for controlling the storing, feeding and burning of a pulverized fuel in a glass melting furnace, wherein a series of burners are arranged one in front of the other to carry out combustion and non-combustion cycles during a glass melting process. Pulverized fuel feeding systems are provided, which are filled up and emptied out with the pulverized material for providing a constant flow of the pulverized fuel to each of the burners during the glass melting process. The control system including control means for monitoring and controlling the filled up and discharge out of said pulverized fuel feeding system based on the measurement and monitoring of the amount of pulverized fuel that is being stored and fed by the pulverized fuel feeding system. Control means are provided for monitoring at least one operating variable involved on the glass melting furnace, the control means detecting a series of different variable during the glass melting process. And means for controlling the alternation of the combustion and non-combustion cycles to each burner, based on the monitoring and feeding of the pulverized fuel to burner and in base to the operating variables of the glass melting process.



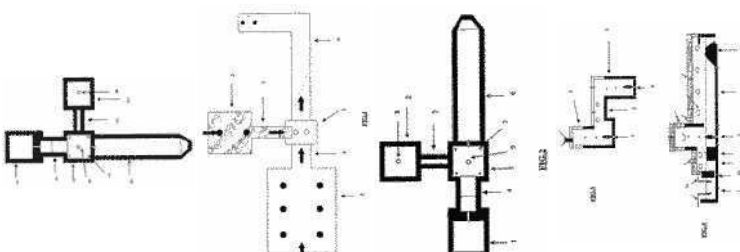
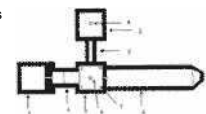
46. Manufacturing method and manufacturing device for glass fine particle deposit JP2014034489 2012-08-08 SUMITOMO ELECTRIC INDUSTRIES* 2014-02-24 2014-02-24

PROBLEM TO BE SOLVED: To provide a manufacturing method for glass fine particle deposits in which an outer diameter of the glass fine particle deposits can be accurately measured on time during deposition of glass fine particles while influence of flames is taken into consideration. SOLUTION: During deposition of glass fine particles, luminance is measured at the glass fine particle deposits M and at a periphery thereof from a side face. Then a differential waveform is acquired based upon luminance change between two successive points of measured luminance data. Further, inflection points T, where the differential waveform changes large in gradient, appearing at a border between the flames and the glass fine particle deposits M are detected and an inflection point T appearing at a position closest to the glass fine particle deposits M is specified as a contour position of the glass fine particle deposits M.



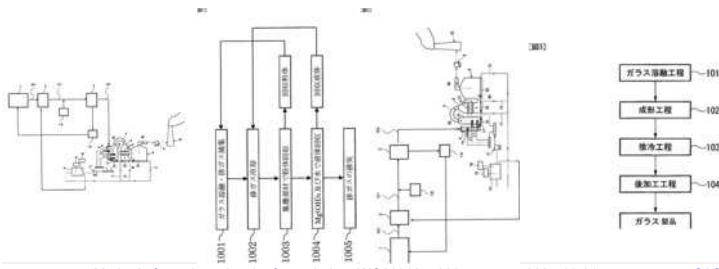
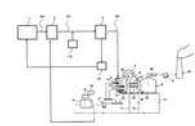
47. Device and method for melting vitrifiable materials FR2832704 2001-11-27 SAINT GOBAIN ISOVER* 2003-05-30 2003-05-30

The invention concerns a device for melting vitrifiable materials combining at least two separate melting modules, one module A(1) being mainly equipped with heating means in the form of aerial burners and/or immersed electrodes, and a module B(2) being mainly equipped with heating means in the form of immersed burners.



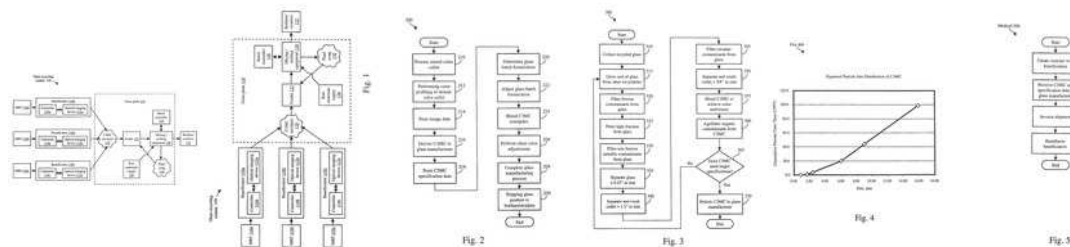
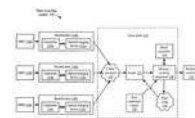
48. Method for producing alkali-free glass WO2014077114 2013-10-28 ASAHI GLASS* 2014-05-22 2014-05-22

The present invention is a method for producing an alkali-free glass, the method including the following: a step for melting a glass raw material and collecting exhaust gas; a step for cooling the exhaust gas by bringing the exhaust gas into contact with a cooling liquid; a step for adding at least one compound selected from among the group consisting of CaCO_3 , Ca(OH)_2 and $(\text{Ca,Mg})\text{CO}_3$ to the cooled exhaust gas and recovering from the exhaust gas a powder having an average particle diameter (D50) of 30-100 μm by using a dust collection member; and a step of bringing the exhaust gas from which the powder has been recovered into contact with Mg(OH)_2 and water so as to recover, as a recovered liquid, a component contained in the exhaust gas. The recovered liquid is used as the cooling liquid in the step for cooling the exhaust gas.



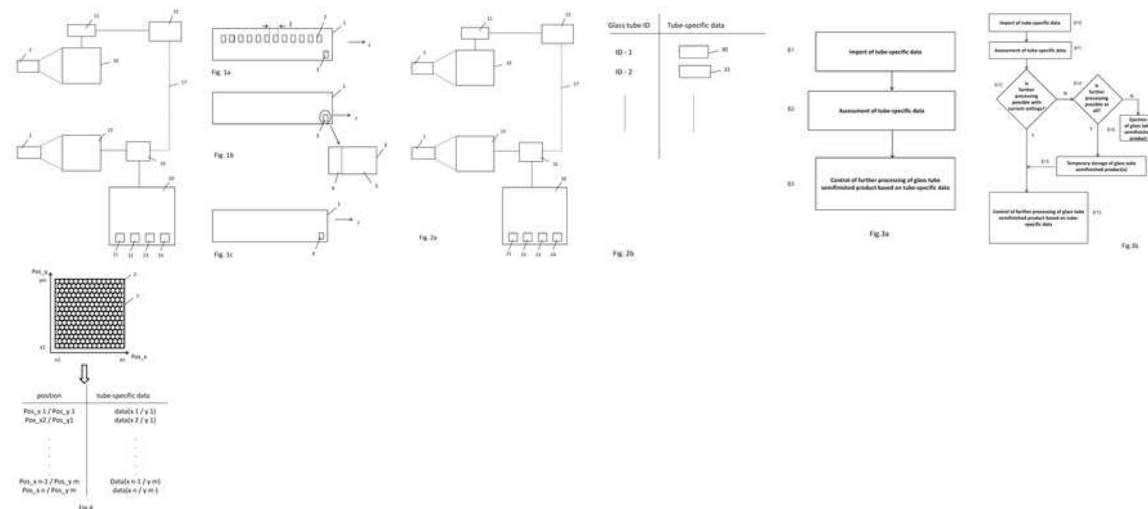
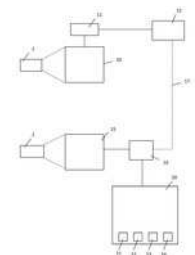
49. Method of creating a batch of recycled glass from two batches of mixed-color cullet WO2006055238 2005-11-01 CASELLA WASTE SYSTEM, CASELLA WASTE SYSTEMS, CASERA WASTE SYSTEMS, RE COMMUNITY ENERGY, RE COMMUNITY HOLDINGS II* 2006-05-26 2006-05-26

Methods of creating a batch of recycled glass from mixed color glass cullet. In one embodiment, the method includes receiving at a glass plant a weight and color composition percentage of a first batch of mixed color cullet. The glass plant also receives a weight and color composition percentage of a second batch of mixed color cullet. The weight and color composition percentage of the first batch and the second batch are combined to generate a combined weight and composition percentage. The combined weight and composition are percentage are used to generate, automatically at a glass plant, a formulation to produce glass of a desired color.



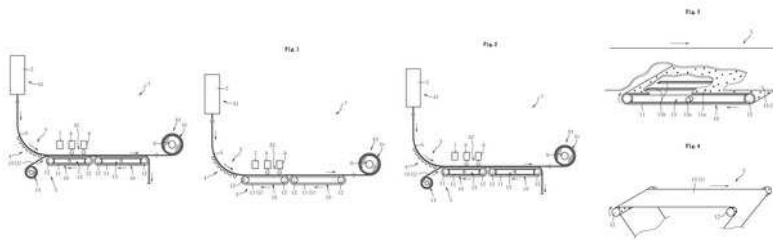
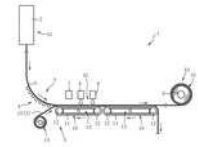
50. Method of processing a semi-finished glass tube including thermal forming EP3333135 2016-12-08 SCHOTT*, SCHOTT SCHOTT 2018-06-13 2018-06-13

A method for further processing of a glass tube semi-finished product includes: providing the glass tube semi-finished product, along with tube-specific data for the glass tube semi-finished product; reading the tube-specific data for the glass tube semi-finished product; and further processing of the glass tube semi-finished product including a step of thermal forming carried out at least in sections. At least one process parameter during the further processing of the glass tube semi-finished product including the step of thermal forming carried out at least in sections is controlled as a function of the tube-specific data for the glass tube semi-finished product. In this way, the further processing can be matched more efficiently to the particular characteristics of a glass tube semi-finished product to be processed or a particular subsection thereof, and the relevant characteristics of the particular glass tube semi-finished product do not need to be measured again. (From US2018162765 A1)



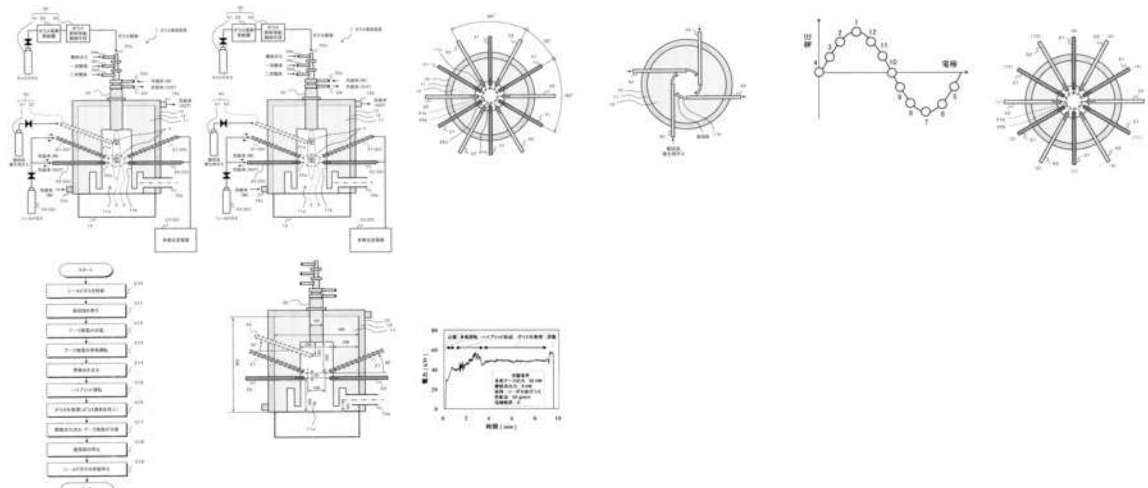
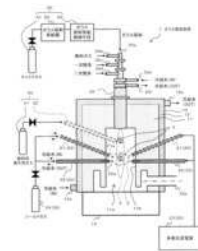
51. Method and apparatus for producing glass roll WO2012157639 2011-05-19 NIPPON ELECTRIC GLASS* 2012-11-22 2012-11-22

The purpose of the present invention is to easily and stably produce a glass roll (Gr) which does not tend to cause weaving during transport, etc. The present invention is a method for producing a glass roll (Gr) which is obtained by changing the feed direction of a glass film (G) which is drawn vertically downward from a forming apparatus (2) from a vertical direction to a horizontal direction, then winding in a roll form the glass film (G) which is continuously sent downstream by a horizontal transfer section (5) at a point downstream of the horizontal transfer section (5). The glass film (G) is surface contact supported by an endless belt (11) with which the horizontal transfer section (5) is provided as a support section (S), and imparted with a winding force that is less than the static friction force between the endless belt (11) and the glass film (G) caused by the self-weight thereof.



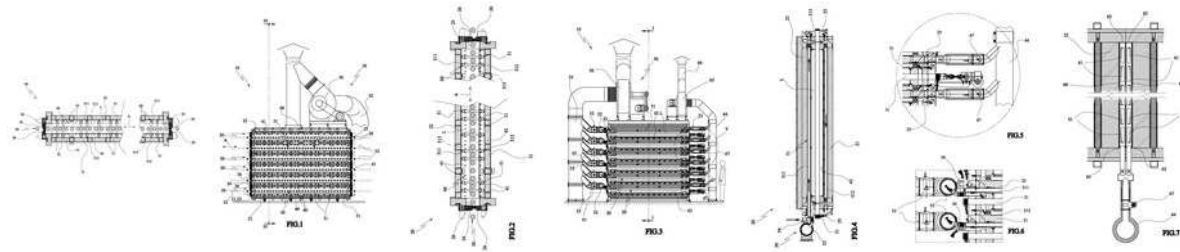
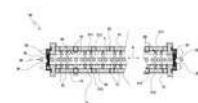
52. Apparatus and method for producing glass JP2013082591 2011-10-12 TOKYO INSTITUTE OF TECHNOLOGY* 2013-05-09 2013-05-09

PROBLEM TO BE SOLVED: To provide a glass production apparatus capable of vitrifying a glass raw material uniformly in a short time. SOLUTION: In this glass production apparatus 1, a glass raw material 4 formed in a particular shape is allowed to pass through a combustion flame 3 generated by a combustion tube 30 to be heated uniformly and to raise its temperature, and further, is heated at high temperature by arc plasma 2 generated by applying a multiphase alternating voltage to arc electrodes 21, 22, to be thereby vitrified. In this case, the glass production apparatus 1 forms a swirling flow swirling and simultaneously descending along the inner wall of a vitrification processing space 11a by a rotating flow generation means 40. Further, the arc electrodes 21, 22 to which the multiphase alternating voltage is applied are arranged so that a phase difference between the facing electrodes does not become maximum, and the glass raw material 4 is inputted into the vitrification processing space 11a intermittently and synchronously with change of a high-temperature region of the arc plasma 2 by a glass raw material supply means 50.



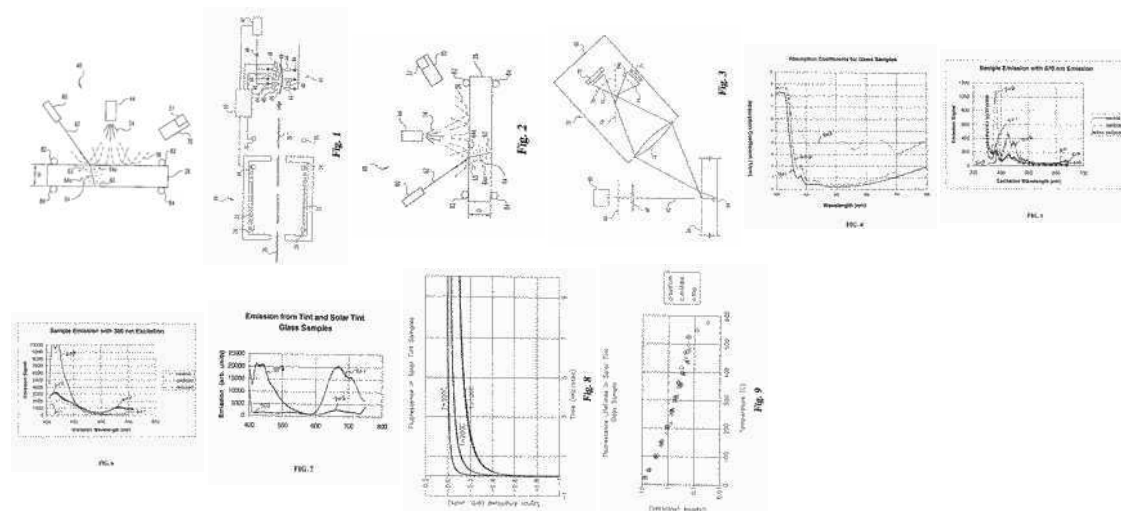
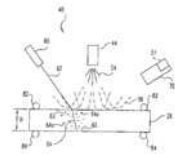
53. A kiln for annealing glass slabs ITRE20110055 2011-07-25 KERAGLASS* KRAUSE INDUSTRIES 2013-01-26 2013-01-26

A kiln (10) for annealing glass slabs, which comprises a plurality of heating chambers (20) that are reciprocally superposed and independent, each heating chamber (20) being provided with: at least an access mouth (24, 25) for passage of at least a glass slab (L), a motorised roller plane (30) on which the glass slab (L) rests and moves, heating means (40) suitable for heating the glass slab (L) located in the heating chamber (20) and cooling means (50) suitable for commanding controlled cooling of the heating chamber (20).



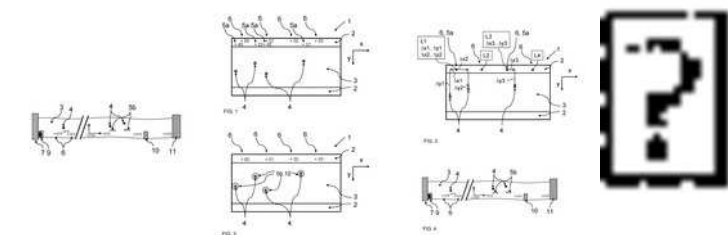
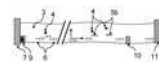
54. [System and method for glass processing and temperature sensing](#) US20030024269 2001-05-30 [BATTELLE MEMORIAL INSTITUTE*](#) 2003-02-06 2003-02-06

Techniques for measuring the temperature at various locations through the thickness of **glass** products and to control the **glass** processing operation with the sensed temperature information are disclosed. Fluorescence emission of iron or cerium in **glass** is excited and imaged onto segmented detectors. Spatially resolved temperature data are obtained through correlation of the detected photoluminescence signal with location within the **glass**. In one form the detected photoluminescence is compared to detected scattered excitation light to determine temperature. Stress information is obtained from the time history of the temperature profile data and used to evaluate the quality of processed **glass**. A heating or cooling rate of the **glass** is also controlled to maintain a predetermined desired temperature profile in the **glass**.



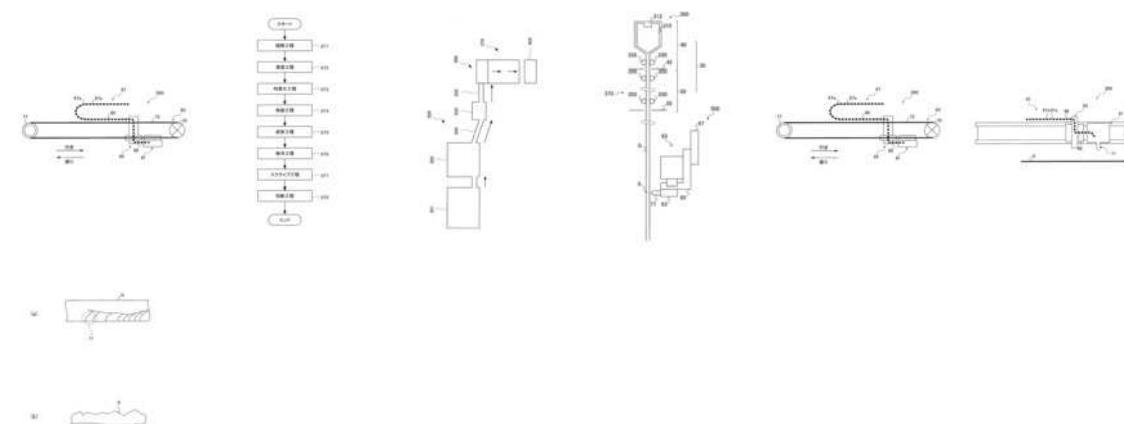
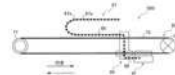
55. [Glass roll, product having a glass roll, device and method for the manufacture thereof](#) US20160311722 2015-04-21 [SCHOTT* SCHOTT SCHOTT](#) 2016-10-27 2016-10-27

A **glass** roll, as well as a device and a method for manufacturing the **glass** roll are provided. The **glass** roll includes a **glass** ribbon having a thickness, a length in an x-direction, and a width in a y-direction. The **glass** ribbon has at least one defect site at a position, as well as at least one error mark disposed on the **glass** ribbon, and is wound up into a **glass** roll.



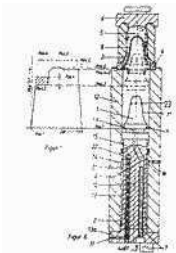
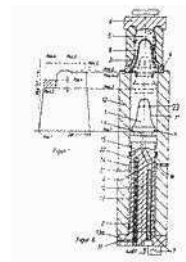
56. [Method and apparatus for manufacturing glass plate](#) CN203513492 2013-09-26 [AVANSTRATE*](#) 2014-04-02 2014-04-02

PROBLEM TO BE SOLVED: To provide a method for manufacturing a **glass** plate capable of suppressing an unnecessary force applied to a cutter support and preventing cutting failure from being generated on the cut surface of a thin sheet **glass** molded by increasing a speed for drawing down the sheet **glass** by a down-draw method when forming a scribe line in the sheet **glass**. SOLUTION: The method for manufacturing a **glass** plate includes the scribe step of: supporting a cutter for forming a notch in a sheet **glass**; conveying a cutter support for pressing the cutter on the sheet **glass** in the state of pressing the cutter on the sheet **glass**; and forming a linear scribe line on the surface of the sheet **glass**. In the scribe step, a coupling table arranged to be spaced with the cutter support is conveyed by conveyance in a transverse direction together with the cutter support, and a control line moved by following the coupling table is guided toward the cutter support.



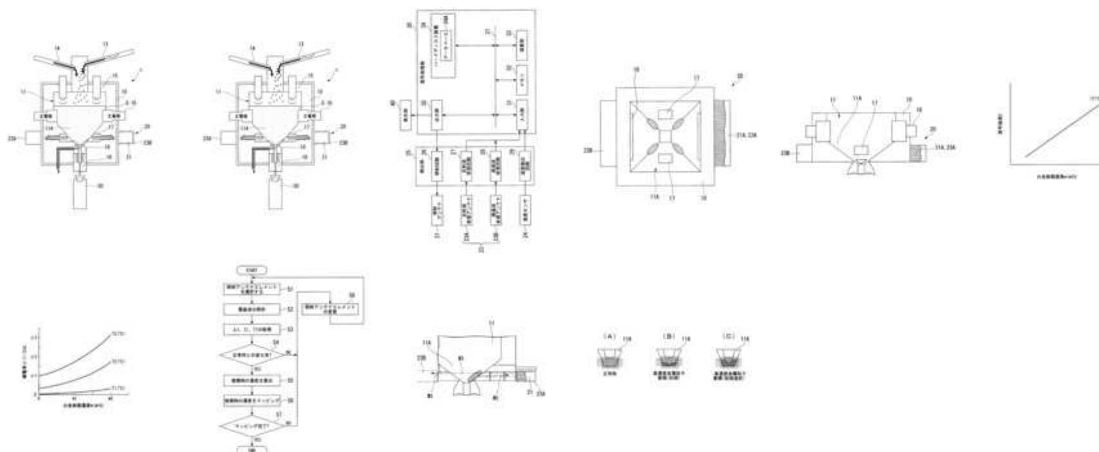
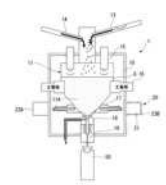
57. Process and device for shaping a gob. WO8802353 1986-09-30 LEWERINGHAUS MANFRED DIPL KAUF 1988-04-07 1988-04-07
LEWERINGHAUS MANFRED DIPL KAUFM 4322 SPROCKHOEVEL*
LEWERINGHAUS, MANFRED, DIPL.-KFM.

In a process for shaping a gob in order to obtain a hollow **glass** article by means of an electronically-regulated and hydraulically-propelled level, the process of shaping the gob into a rough or finished product is rationally effected in a predefinable and in particular precisely reproducible manner by the fact that an electro-hydraulic servo-drive is used as a means for driving the level, and that the latter, during at least the practically total performance of the movement, is adjusted in position by means of a closed position-regulating circuit. In a device suited for this purpose the drive device of the level (1) consists of an electro-hydraulic servo-drive and an electronic position-adjusting device for the at least approximately total movement of the level. Preferably the movement of the level in the **glass** article is also effected at a regulated speed and, ideally, the shaping stage is completed by a pressure-regulated forward movement of the level.

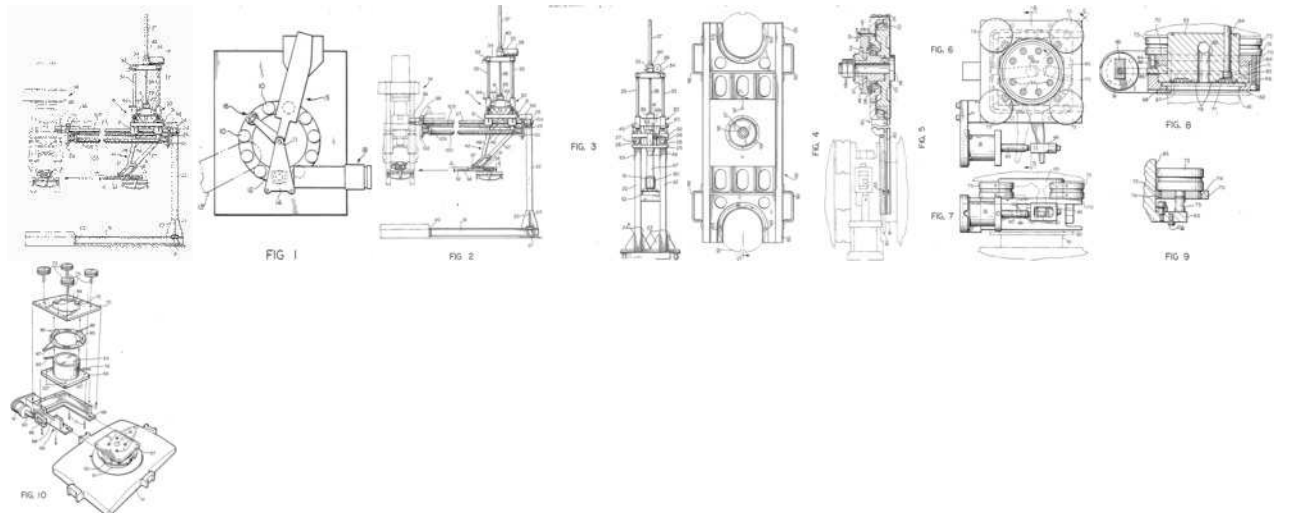


58. Glass melting furnace JP2014210705 2014-05-15 IHI* 2014-11-13 2014-11-13

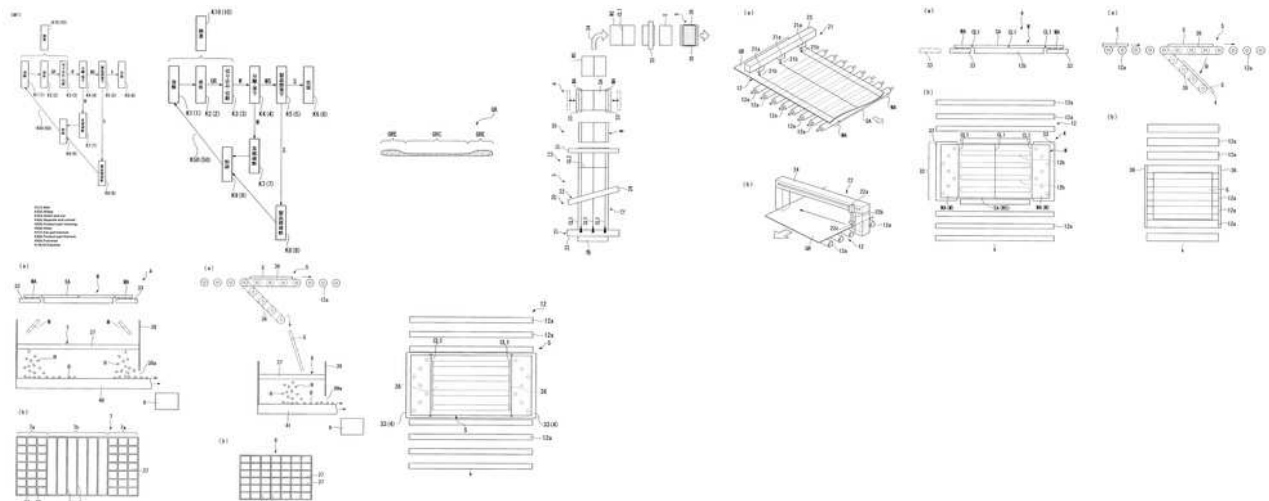
PROBLEM TO BE SOLVED: To provide a **glass** melting furnace which can grasp the deposition condition of a deposit efficiently. SOLUTION: A **glass** melting furnace comprises an irradiation antenna which is composed of a plurality of antenna elements arranged in a matrix form and irradiating a melting space with electromagnetic waves, a reflection wave antenna which receives reflection waves of the electromagnetic waves reflected by the melting space, a transmitted wave antenna which receives transmitted waves of the electromagnetic waves transmitted through the melting space, a plurality of temperature sensors which are arranged so as to correspond to the antenna elements and detect a temperature of molten **glass**, a detection portion which supplies power to the irradiation portion to make the irradiation portion irradiate with electromagnetic waves and outputs reflection wave signals representing reflection waves, transmitted wave signals representing transmitted waves and temperature measurement signals representing the temperature of the molten **glass** and a signal processing portion which identifies concentrations of the platinum-group elements as deposit by searching a database created by representing the correlation between individual intensities of the reflection waves and the transmitted waves with concentrations of the platinum-group elements in the molten **glass** as a numerical-value-table graph with the temperature of the molten **glass** as the parameter.



A detailed schematic diagram of a mechanical control system. It features a vertical shaft with a handle at the top, connected via a series of gears and levers to a horizontal arm. This arm is part of a larger assembly that includes a sliding mechanism along a track, likely for controlling the position of a tool. Various components are labeled with letters and numbers, indicating specific parts of the mechanism.

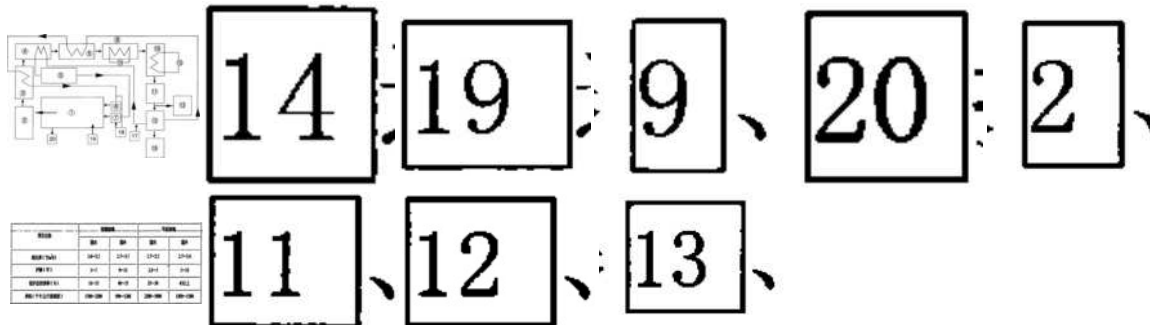
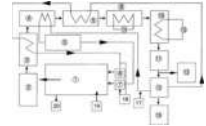


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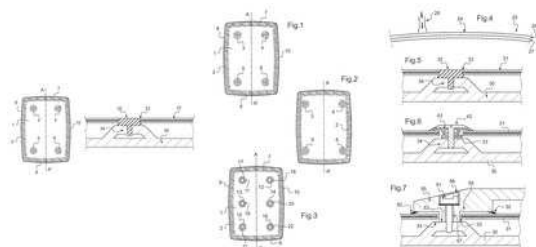
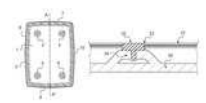
61. Fuel-gas double-preheating high-temperature oxygen-enriched hydrocarbon heat circulation nitrogen-free unidirectional radiation combustion system CN104418484 2013-09-06 XING YISONG;Xing Yunjing;Xing Yuntao 2015-03-18 2015-03-18

The invention starts from thermal test data of a **glass** melting kiln and molten **glass** preparation principles, and key factors affecting the melting efficiency are analyzed. A fuel-gas double-preheating high-temperature oxygen-enriched hydrocarbon heat circulation nitrogen-free unidirectional radiation combustion technology and an O₂/CO₂ mixed oxygen-enriched combustion and preheating batch process are adopted in the system, so that the heat-conducting coefficient and heat absorption capability of the batch are greatly improved, the heating rate of the batch is increased, the melting efficiency of molten **glass** is substantially increased, and the volume and heat-dissipation energy consumption of the melting kiln are decreased; since the batch is preheated by virtue of **waste** heat of fuel gas, the utilization efficiency of energy sources is increased.



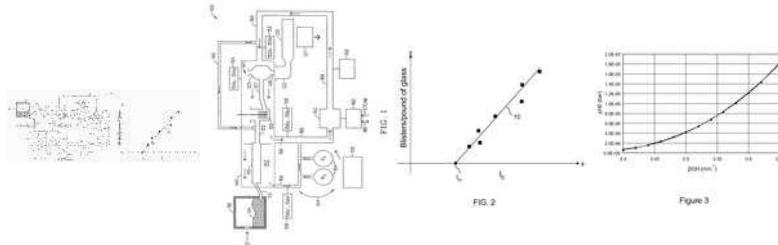
62. Glass vehicle roof comprising localized zones under compressive stress CA2850257 2011-10-14 SAINT GOBAIN GLASS* SAINTES GORDON FRANZ S SOLID FIBERGLASS 2013-04-18 2013-04-18

The invention relates to a motor vehicle roof comprising two longitudinal edges and two transverse edges which is symmetric about a median longitudinal plane, consisting of glazing comprising at least one sheet of mineral **glass**, said sheet comprising a belt of compressive edge stresses, said sheet comprising at least two localized zones of compressive stresses inside said belt and positioned symmetrically about said plane of symmetry, each localized zone of compressive stresses being less than 30 cm from a longitudinal edge.



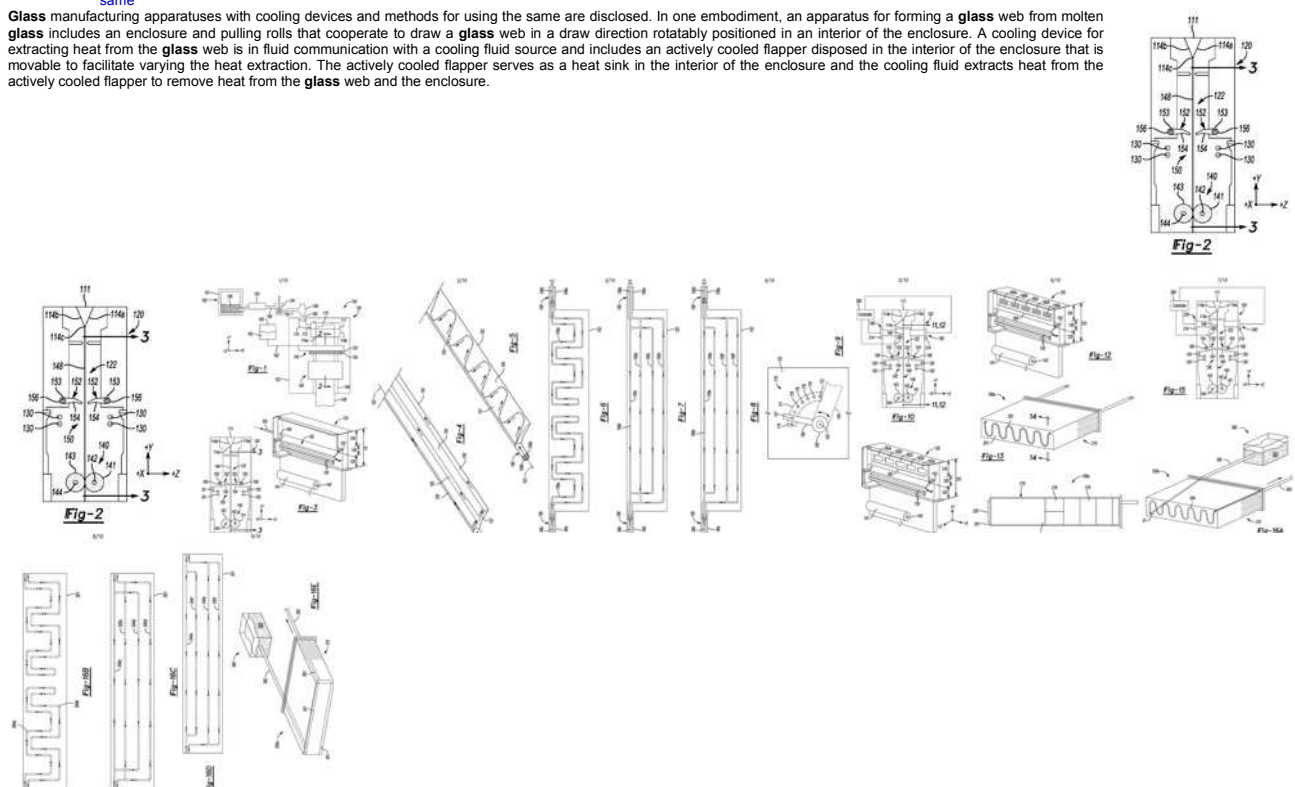
63. Method of eliminating blisters in a glass making process WO2007067799 2006-12-07 CORNING* 2007-06-14 2007-06-14

A method of controlling blister formation in a **glass** melt flowing through a system comprising one or more refractory metal vessels by developing a blister index and determining the critical blister index value. The critical value of the blister index may be used to control the principal variables responsible for blister formation, including the water content of the melt, the concentration of reduced multivalent oxide compounds in the melt, and the hydrogen partial pressure of an atmosphere in contact with the outside surface of the refractory metal vessel. Also disclosed is a minimum partial pressure of hydrogen necessary to produce an essentially blister-free **glass** article in a **glass** essentially free of arsenic and antimony



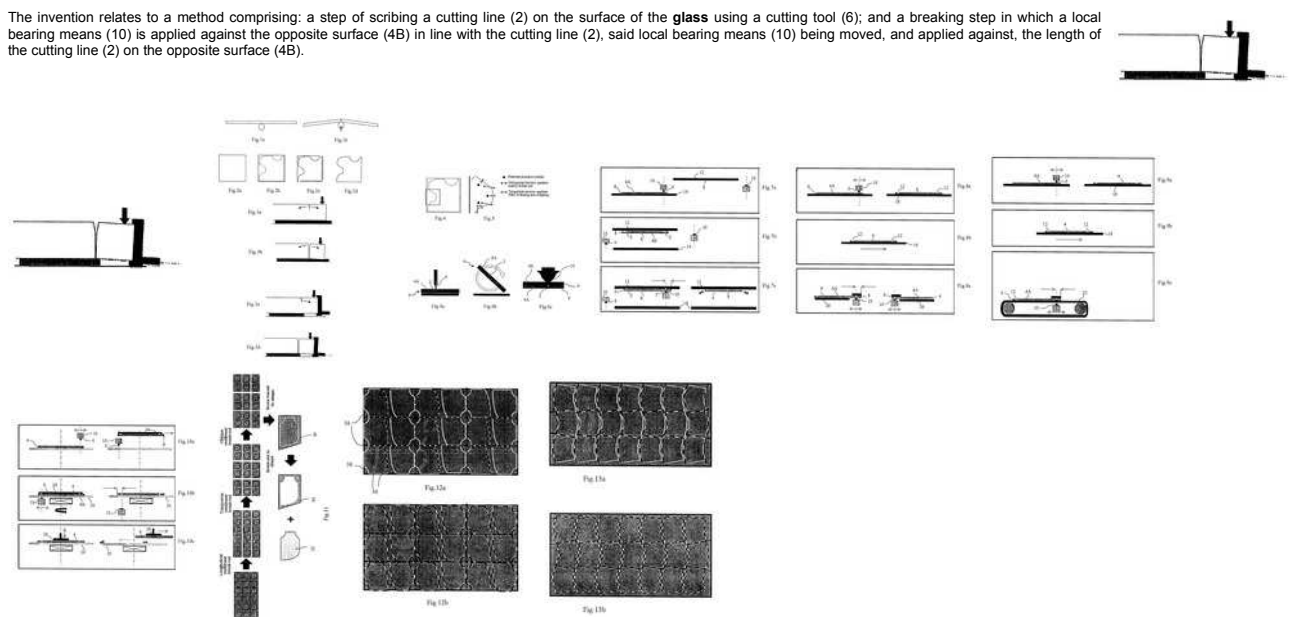
66. Glass manufacturing apparatus with cooling devices and method of using the same WO2017087738 2016-11-18 CORNING* 2017-05-26 2017-05-26

Glass manufacturing apparatuses with cooling devices and methods for using the same are disclosed. In one embodiment, an apparatus for forming a glass web from molten glass includes an enclosure and pulling rolls that cooperate to draw a glass web in a draw direction rotatably positioned in an interior of the enclosure. A cooling device for extracting heat from the glass web is in fluid communication with a cooling fluid source and includes an actively cooled flapper disposed in the interior of the enclosure that is movable to facilitate varying the heat extraction. The actively cooled flapper serves as a heat sink in the interior of the enclosure and the cooling fluid extracts heat from the actively cooled flapper to remove heat from the glass web and the enclosure.



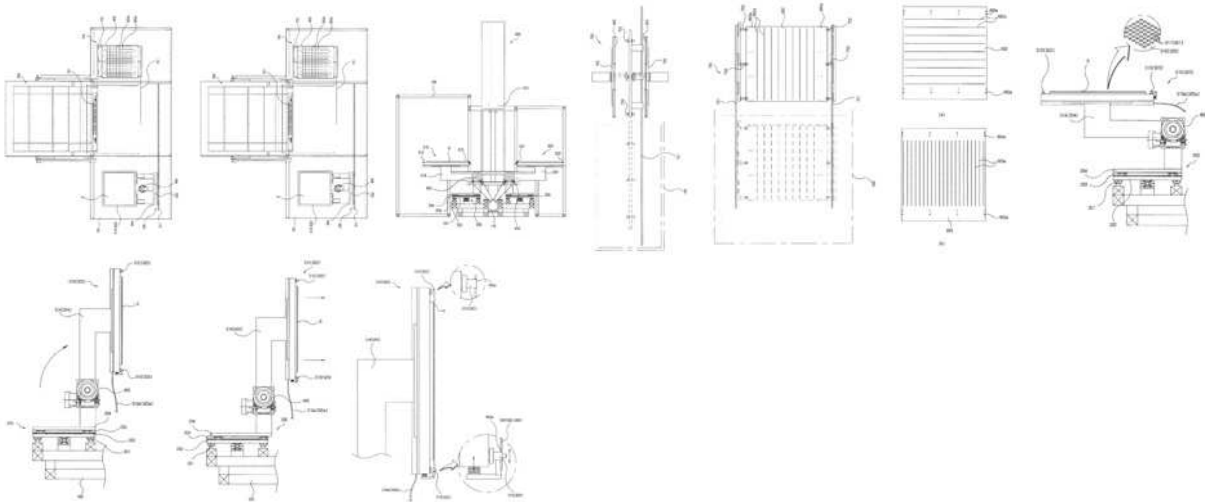
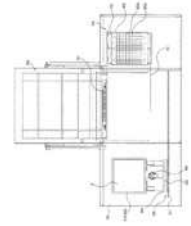
67. Method for breaking a glass sheet CA2954462 2014-07-24 SAINT GOBAIN GLASS* 2016-01-28 2016-01-28

The invention relates to a method comprising: a step of scribing a cutting line (2) on the surface of the glass using a cutting tool (6); and a breaking step in which a local bearing means (10) is applied against the opposite surface (4B) in line with the cutting line (2), said local bearing means (10) being moved, and applied against, the length of the cutting line (2) on the opposite surface (4B).



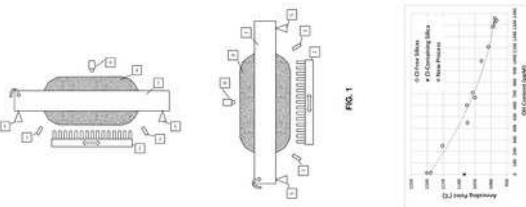
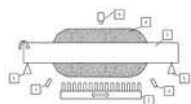
68. Plate glass processing system TW201608437 2015-07-15 TAE SUNG ENGINEERING* TAESUNG ENGINEERING 2016-03-01 2016-03-01

PROBLEM TO BE SOLVED: To provide a plate glass processing system, wherein a first adsorption stage supports and adsorbs a plate glass at a standby part and is simultaneously moved while being stood at a predetermined angle to a rinsing part thereby to rinse the surface of the plate glass, wherein the plate glass rinsed is moved to a processing part thereby to define and cut the front face of the plate glass, a second adsorption stage is turned to transmit the plate glass adsorbed by the first adsorption stage, wherein the rear face of the plate glass is defined and cut in the processing part, wherein the plate glass partitioned and cut is positioned on a discharge part, wherein the cell unit plate glass is recovered, and wherein the residual on the second adsorption stage is simultaneously eliminated to acquire a cell unit sheet glass. SOLUTION: A plate glass processing system is constituted to comprise an approach part 100, a transfer part 200, first and second adsorption stages 310 and 320, a standby part 400, a rinsing part 500, a processing part 600, a discharge part 700 and a transfer drive unit 800. **SELECTED DRAWING:** Figure 2



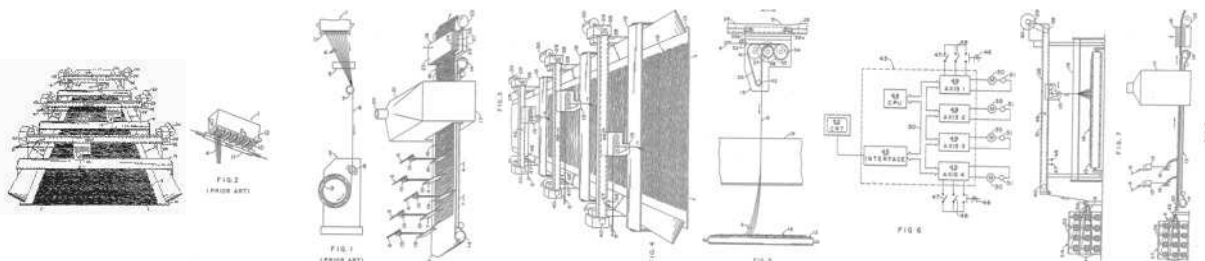
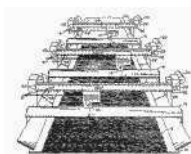
69. High purity synthetic silica and items such as semiconductor jigs manufactured therefrom GB201011582 2010-07-09 HERAEUS QUARTZ* HERAEUS QUARTZ YUKE LIMITING ROYALTY 2010-08-25 2010-08-25

Hollow ingots of transparent synthetic vitreous silica glass of external diameter greater than 400 mm and internal diameter greater than 300 mm are disclosed. The ingots are substantially free from bubbles or inclusions greater than 100 μ m in diameter, have no more than 100 ppB of any individual metallic impurity, and have chlorine concentration less than 5 ppm. Also disclosed are methods for producing such ingots, in which a porous soot body of density greater than 0.4 g/cm³ is deposited on an oxidation resistant mandrel. The soot body is dehydrated on a mandrel comprising graphite, carbon fibre reinforced carbon, silicon carbide, silicon impregnated silicon carbide, silicon carbide-coated graphite or vitreous silica, either under vacuum or in the presence of a reducing gas, and then sintered to transparent pore-free glass under vacuum or in an atmosphere of helium.



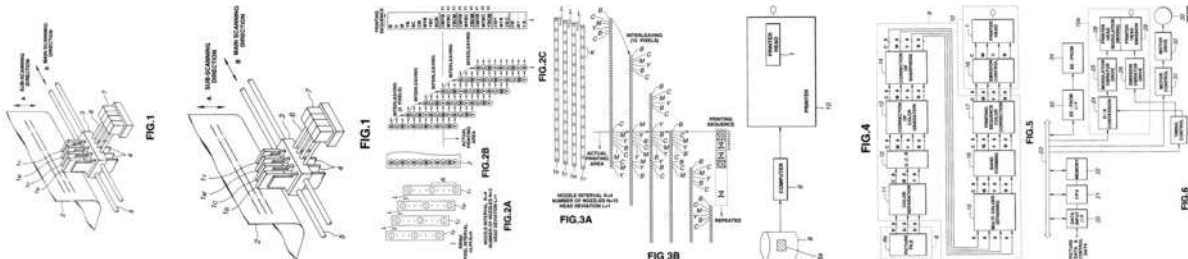
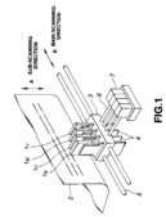
70. Programmably controlled fibre glass strand feeders and improved methods for making glass fibre mats. US4964891 1988-11-13 PPG INDUSTRIES* 1990-10-23 1990-10-23

The specification of the instant invention discloses improvements in methods for making various types of mats of fibrous material. In particular, the improvements relate to methods for making continuous fiber glass strand mats using reciprocating strand feeders and a programmable motion controller to control both the rate of reciprocation and the rate at which strand is deposited from the feeders onto a moving conveyor so as to form mats of uniform density and thickness. Electric servomotors are used to reciprocate the feeders and also deposit strand therefrom. A closed-loop feedback circuit is used to accurately monitor and control the position of the feeders with respect to the conveyor as well as the rate of strand deposition. Methods for using the programmable motion controller described herein can increase the uniformity of needed, resin-impregnated, and uni-directional fiber glass mats.



74. Ink jet printer and head unit of the same WO9633950 1995-04-28 MITSUBISHI CHEMICAL*
SONY
SONY ELECTRONICS 1996-10-31 1996-10-31

In an ink jet printer and a head unit of the same, a plurality of printer heads having N-pieces of nozzles respectively, which are arranged in a sub-scanning direction at K-picture element intervals in predetermined resolution so that K/N has a value of irreducible fraction, are provided so that the nozzles face in a main scanning direction in accordance with the color of ink to be ejected, and stagger from one another by L-picture elements in the sub-scanning direction. Therefore, during one scanning operation in the main scanning direction of the printer heads, only one color of ink is recorded (deposited) on the same line on a member to be recorded. This can prevent a second color ink from being recorded before the first color ink has been dried, and enables a picture of a high quality to be printed. When the printer heads are arranged so as to be staggered in a stepped manner by L-picture elements in which L<N, the head unit can be formed to smaller dimensions as compared with a conventional head unit. Especially, when a lot of nozzles are provided for a high-speed printing operation, a greater effect can be obtained. <IMAGE>

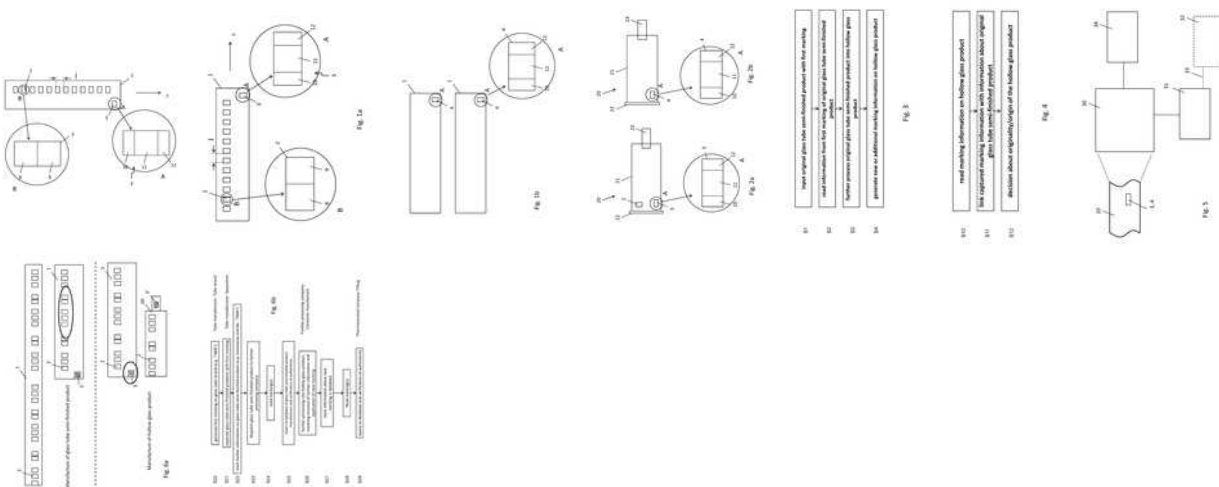
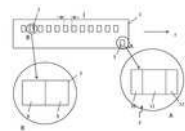


75. Improvements in methods and systems requiring lubrication WO2016039997 2015-08-27 EMHART GLASS*
EMHART GLASS SOCIETE ANONYM
IMELIS A. GRAPHITE A. CARBON A.
SWITZERLAND A. SOCIETE A.
ANONYM
IMERY'S GRAPHITE & CARBON
SWITZERLAND* 2016-03-17 2016-03-17

Methods and systems in which a molten glass gob, which is processed according to the method or in the system, has a lubricant applied thereto. As it is processed in the system, the molten glass gob mass having the lubricant applied thereto is used to transfer lubricant to a part or parts of the system.

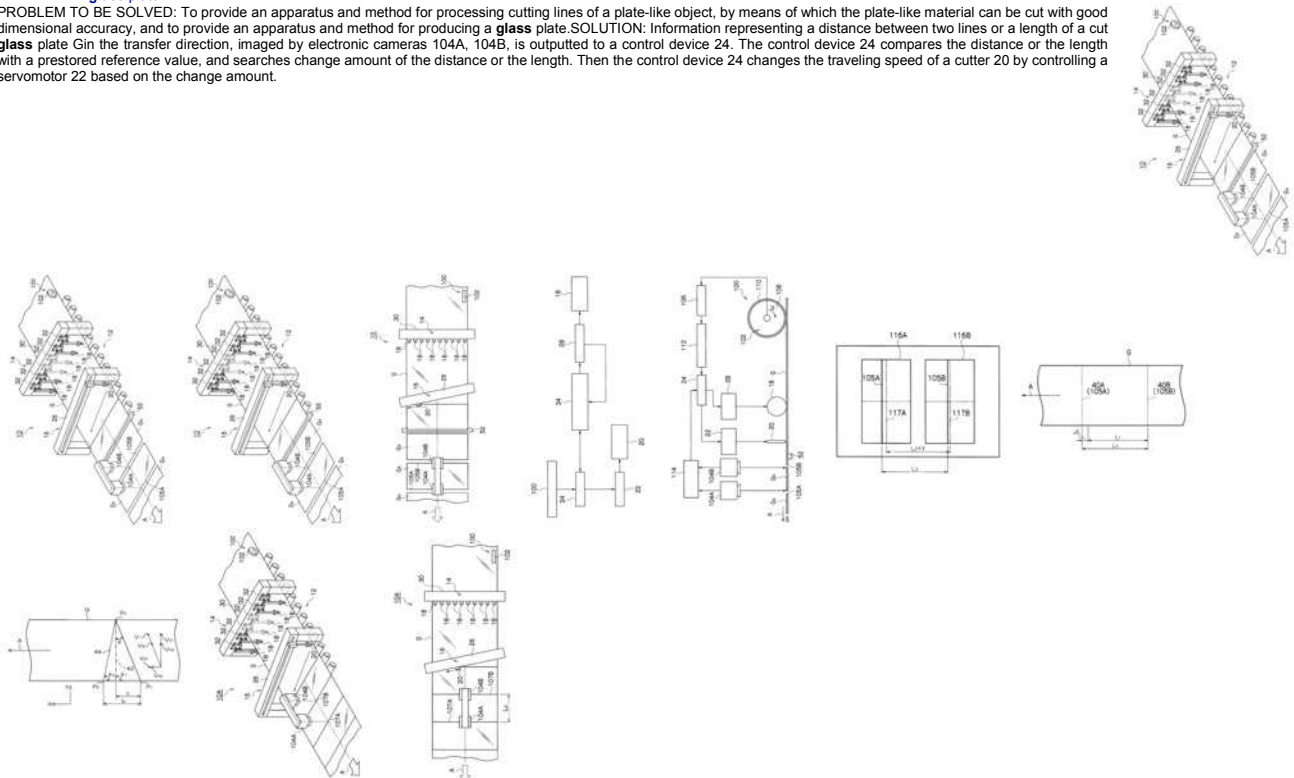
76. Method for producing a semifinished glass tube or a hollow glass product made from same with markings and uses thereof US20180168928 2016-12-21 SCHOTT*
SCHOTT SCHOTT 2018-06-21 2018-06-21

A glass tube semi-finished product or a hollow glass product manufactured from the glass tube semi-finished product is provided with a first marking with information regarding origin and manufacture of the glass tube semi-finished product and a second marking, the information of which second marking is linked to the information of the first marking, so as to enable a determination regarding authenticity of the glass tube semi-finished product, origin of the glass tube semi-finished product, and/or origin of an apparatus with which the first and/or second marking was generated on the glass tube semi-finished product. The first marking is a marking that is produced at temperatures above the transformation temperature of the glass in a counterfeit-proof manner. The combination of two markings provides a high level of protection against counterfeiting. (From US2018168928 A1)



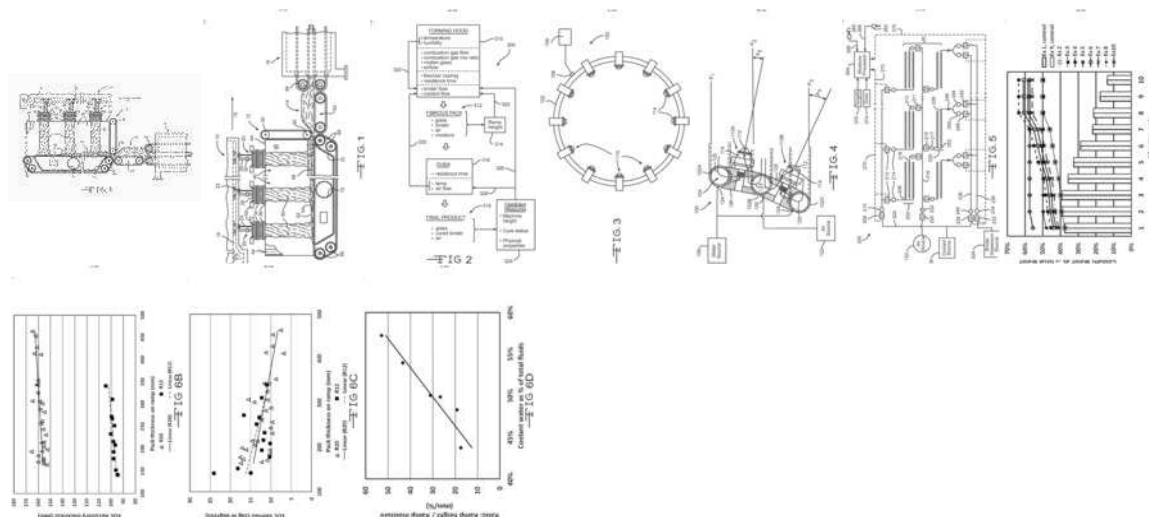
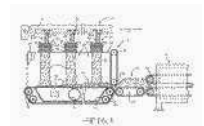
77. Apparatus and method for processing cutting line of plate-like object, and apparatus and method for producing glass plate TW201336793 2012-03-06 ASAHI GLASS* 2013-09-16 2013-09-16

PROBLEM TO BE SOLVED: To provide an apparatus and method for processing cutting lines of a plate-like object, by means of which the plate-like material can be cut with good dimensional accuracy, and to provide an apparatus and method for producing a glass plate. SOLUTION: Information representing a distance between two lines or a length of a cut glass plate G in the transfer direction, imaged by electronic cameras 104A, 104B, is outputted to a control device 24. The control device 24 compares the distance or the length with a prestored reference value, and searches change amount of the distance or the length. Then the control device 24 changes the traveling speed of a cutter 20 by controlling a servomotor 22 based on the change amount.



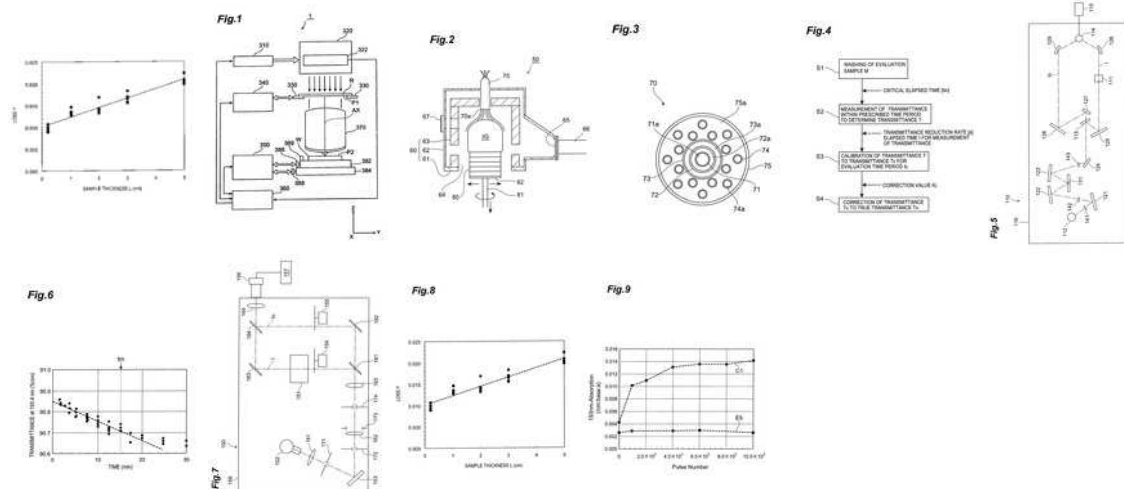
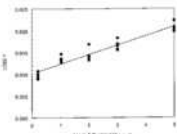
78. Apparatus and method for controlling moisture in the manufacture of glass fiber insulation CA2820880 2011-12-07 OWENS CORNING INTELLECTUAL CAPITAL* OWENS CORNING INTELLIGENT CAPITAL LIABILITY 2012-06-14 2012-06-14

Apparatus, systems and methods for monitoring and controlling the amount of moisture introduced into the forming hood area in the manufacture of mineral fiber insulation products. Moisture from coolant liquids, binder dispersions and binder diluents are all introduced deliberately into a forming hood; ambient moisture and water from combustion are additional sources. A series of global variable control valves, one for each fluid system; as well as individual variable control valves for each fiberizing unit are provided with associated meters. Sensors monitor fibrous pack conditions and ambient conditions and provide inputs to the valve control system. A specific 3-ring liquid dispensing system is also disclosed.



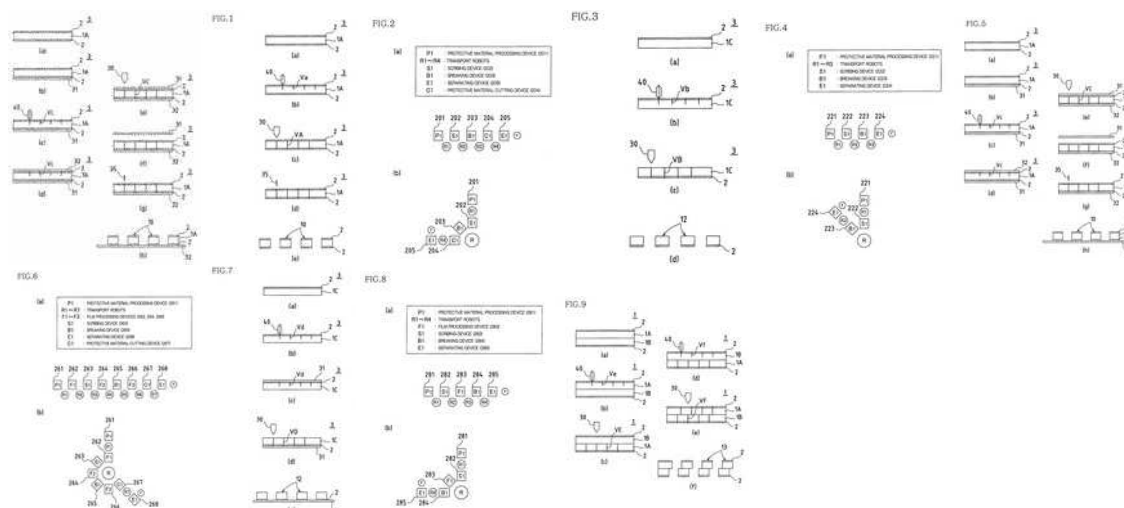
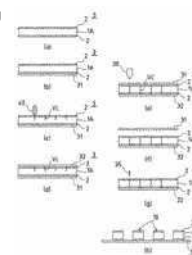
79. Synthetic quartz glass member, photolithography apparatus, and method for producing photolithography apparatus JP2001270731 2000-03-28 NIKON* 2001-10-02 2001-10-02

A photolithography apparatus is constructed comprising an exposure light source that emits light with a wavelength of 400 nm or less as the exposure light, a reticle with a pattern original image formed therein, an illumination optical system that irradiates light outputted from the exposure light source onto the reticle, a projection optical system that projects the pattern image outputted from the reticle onto a photosensitive plate and an alignment system that positions the reticle and the photosensitive plate. At least some of the synthetic silica glass members composing the illumination optical system, the synthetic silica glass members composing the projection optical system and the reticle consist of synthetic silica glass members which, upon 1×10^{-4} pulse irradiation with an ArF excimer laser at an energy density from 0.1 mJ/cm² to 200 mJ/cm², have a loss factor of no greater than 0.0050 cm⁻¹ at 193.4 nm measured after irradiation, a hydrogen molecule concentration of from 1×10^{16} molecules/cm³ to 2×10^{18} molecules/cm³ and a loss factor of no greater than 0.0020 cm⁻¹ before ultraviolet irradiation. <IMAGE>



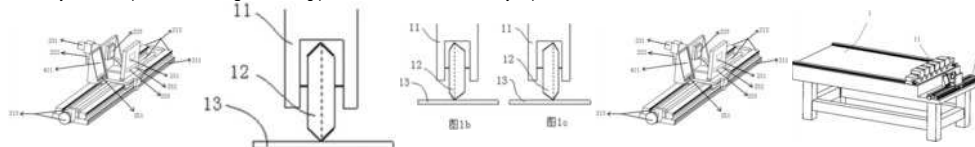
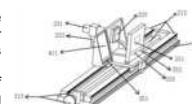
80. Parting method for fragile material substrate and parting device using the method WO03082542 2003-04-01 MITSUBOSHI DIAMOND INDUSTRIAL* 2003-10-09 2003-10-09

The substrate made of the fragile material is scribed, after a protective element is applied onto a surface of the substrate. The cullet produced while cutting the substrate along the scribe line by forming a vertical crack extending deep into the substrate, is removed. An independent claim is also included for fragile substrate cutting device.



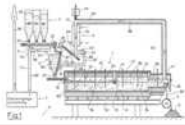
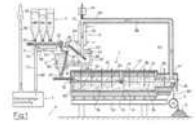
81. Device and method for quickly adjusting knives of glass cutting machines in non-contact manner CN105693076 2016-02-19 CHANGCHUN JINGYI PHOTOELECTRIC TECHNOLOGY* 2016-06-22 2016-06-22

The invention relates to the glass cutting precision, and discloses a device for quickly adjusting knives of glass cutting machines in a non-contact manner. The device comprises a movement platform system, an optical imaging system, an image processing system and a result displaying system. The movement platform system is used for shifting the optical imaging system and the image processing system; the optical imaging system is used for carrying out amplification imaging on knife points of knife boxes and transmitting image data to the image processing system; the image processing system is used for analyzing and processing the image data in the optical imaging system, extracting locations of the knife points and outputting results of the distances from the locations of the knife points to central locations to the result displaying system; data of movement amount of movement platforms and the results, of the distances from the locations of the knife points to the central locations, obtained by the image processing system are displayed by the result displaying system. The device has the advantages that knife box adjusting operation procedures can be simplified, accordingly, the work efficiency can be improved, and the glass cutting precision can be fundamentally improved.



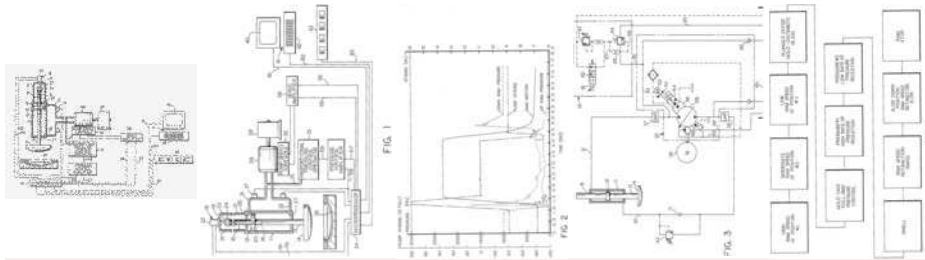
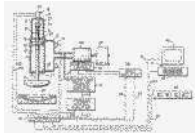
82. [Process for transforming solid, substantially anhydrous waste materials into glass, and apparatus therefor.](#) DK441489 1989-08-25 [METALLGESELLSCHAFT* SORG*](#) 1989-09-07 1989-09-07

Processes and apparatuses of the abovementioned type in which the conversion takes place by melting within a glass-melting furnace, are known. It is disadvantageous in the prior art that dioxins and/or furans can form during the melting and can enter the environment along with the offgas. The novel process and the associated apparatus are more environmentally friendly. The essential features of the novel process are that the offgas is cooled, the resultant condensate is recycled into the melt, and the cold offgas is subjected to gas cleaning. In addition, the waste produced is refuse-combustion ash. In the novel process and the associated apparatus, only relatively harmless, small residual amounts of offgas are produced. The process and the apparatus are particularly suitable for disposing of refuse-combustion ash. Other wastes, such as filter dusts, fly ash, etc., can also be processed. <IMAGE>



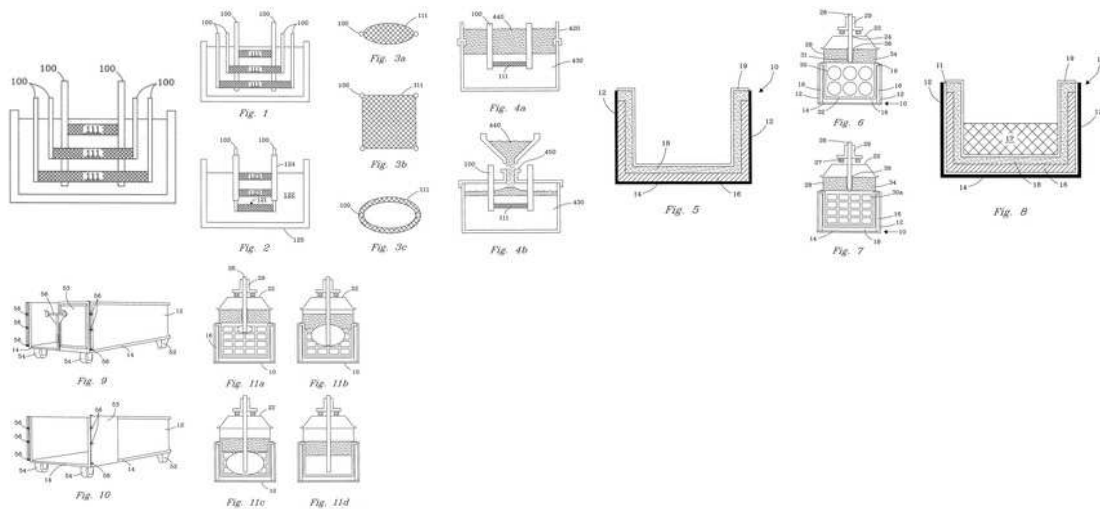
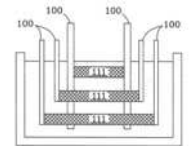
83. [Method and apparatus for pressing glass IT8748153](#) 1986-07-30 [OI NEG TV PRODUCTS OENSU IRINOI TEREBJON PURODAKUTSU OWENS ILLINOIS TELEVISION PRODUCTS*](#) 1987-07-08 1987-07-08

A method and apparatus for pressing glass TV tube faceplates employing a microprocessor controlled ram and plunger operated with open loop position based speed control at relatively high rates of motion when the plunger is not in critical contact with the glass, at uniform speed as the plunger enters the glass and at closed loop pressure control after the viewing region of the cavity for the faceplate between plunger and mold has been filled out at uniform plunger pressing speed. Pressure control is employed to ramp pressure down to a pressing dwell pressure and maintain that pressure.



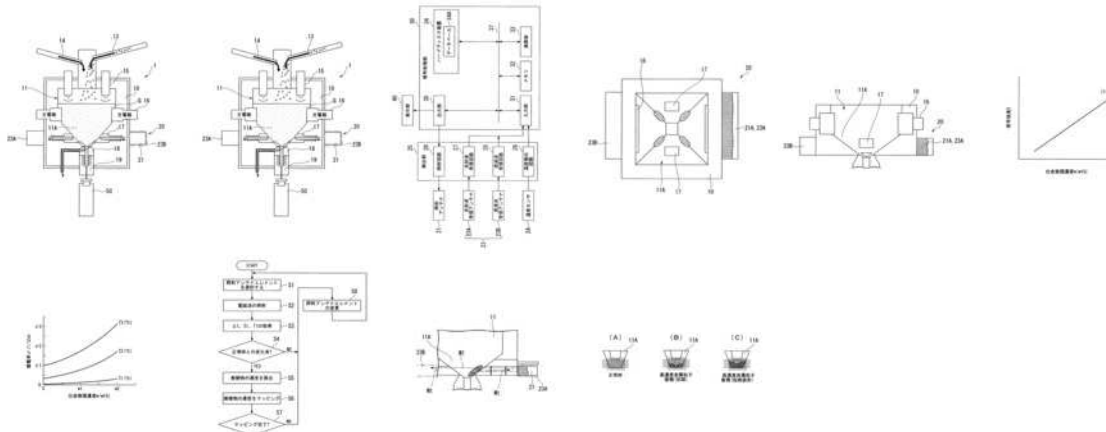
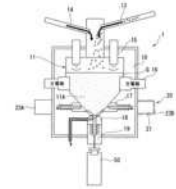
84. [Apparatus for rapid startup during in-container vitrification](#) WO2006081443 2006-01-27 [GEOSAFE*](#) 2006-08-03 2006-08-03

A process for melting material to be treated includes placing material in a container (10) that may include an insulating, heating the material to be treated and melting the material to be treated, preferably- allowing the melted material to cool to form a vitrified and/or crystalline mass, and disposing of the mass. The mass is either disposed while contained in container or removed from container after cooling and disposed. The time required for startup of the melting procedure can be reduced by utilizing a plurality of electrodes (100) and multiple starter paths (111), at least one of which is horizontally-oriented and positioned in a deeper region of the melt container.



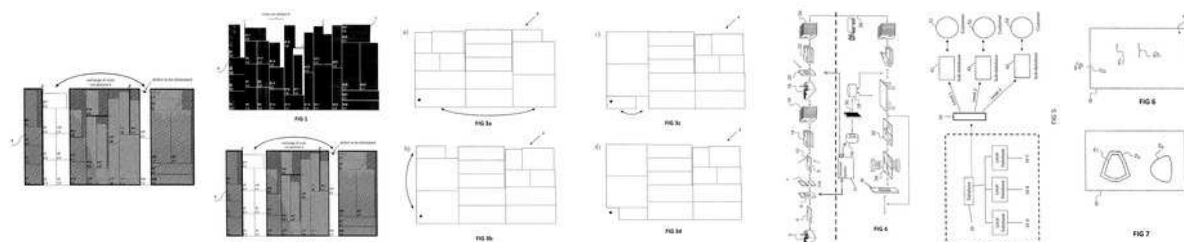
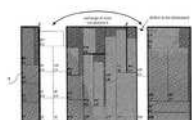
85. **Glass melting furnace and method for detecting deposit** JP2010143780 2008-12-17 IHI* 2010-07-01 2010-07-01

PROBLEM TO BE SOLVED: To provide a method for detecting deposits in a **glass** melting furnace which can efficiently grasp the deposition conditions of deposits deposited in a **glass** melting furnace, and to provide a **glass** melting furnace.
SOLUTION: In the **glass** melting furnace 1 composed in such a manner that a molten **glass** G can be stored in a melting space 11 formed by a refractory brick, and the stored molten **glass** G is exhausted from a flow-down nozzle 19 connected to a deriving part 11A at the lower part of the melting space, the furnace includes a deposit detection means 20 having: an emission part 21 emitting electromagnetic waves; receiving parts 23A, 23B receiving electromagnetic waves emitted from the emission part 21; and a detection part, and detects deposits in the melting space. by receiving the electromagnetic waves emitted from the emission part 21 at the receiving parts 23A, 23B.
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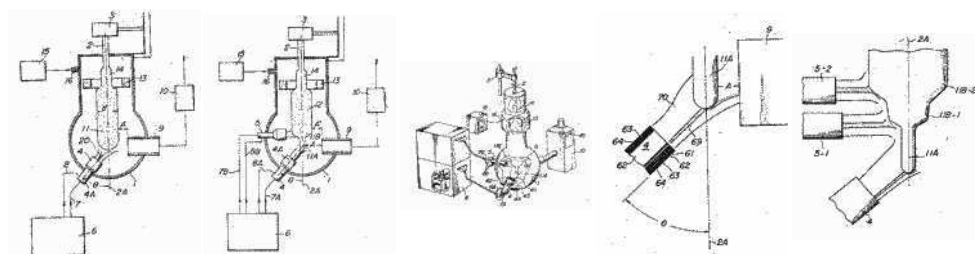
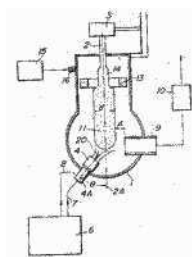
86. **Method for cutting one or more glass sheets** WO2014128424 2013-02-22 SAINT GOBAIN GLASS* 2014-08-28 2014-08-28

The invention relates to a method for cutting a plurality of pieces of **glass** in at least one **glass** sheet, including the following consecutive steps: a step of automatic generation by a computer having a memory on which programs are capable of calculating a first optimal plane for cutting, by means of a guillotine having a plurality of hierarchical levels (X, Y, Z, V), various pieces in each one of said at least one sheet of **glass** according to information such as the size of the pieces to be cut; and a step of reading information relating to defects in said at least one sheet of **glass**, in which the method also includes, subsequently and consecutively: a step of automatic generation by a computer having a memory on which programs are capable of calculating a second optimal plane for cutting, by means of a guillotine having a plurality of hierarchical levels, said at least one sheet of **glass**, from said first optimal cutting plane and according to at least some of the information relating to the defects including permutations of cutting mistakes from the same hierarchical level within said at least one sheet of **glass**; and a step of cutting pieces of **glass**, respecting said second optimum cutting plane generated.



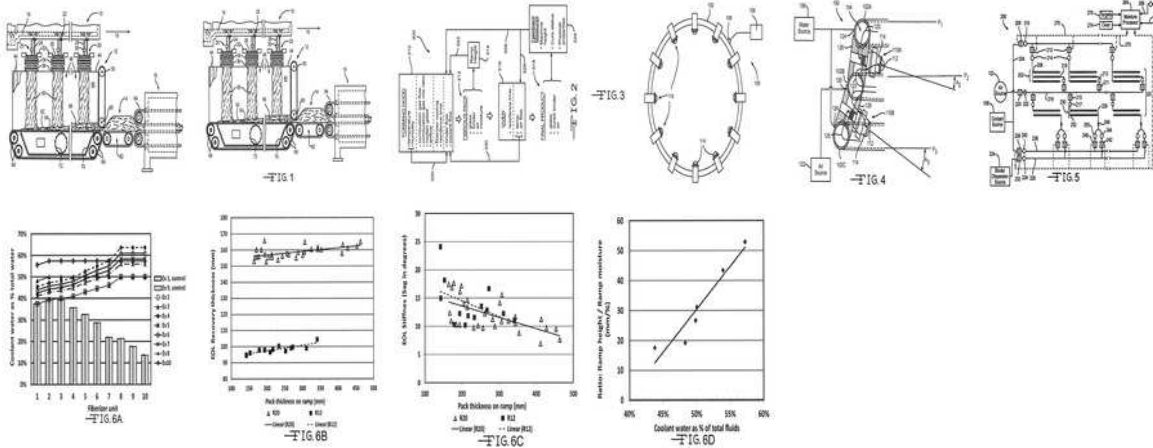
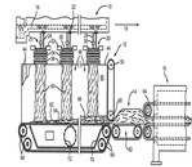
87. **Method of fabrication multi-mode optical fiber preforms** KR830004170 1980-10-06 NIPPON TELEGRAPH & TELEPHONE* 1983-07-06 1983-07-06

A vertical axis (2), as a seeding axis, is rotated and raised by a controller (3). **Glass** material, gas and fuel are supplied through a mixing torch (4) from supplying equipment (6). The porous **glass** preform (11) is heated at 1500-1700°C by a ring-shaped heater (13) to prepare the transparent **glass** preform (14). Halogen gas (15) for dehydration is supplied through a pipe (16). The mixing torch has an angle of 10-60° with the vertical axis. **Waste** gas is exhausted through an exhaust port (9).



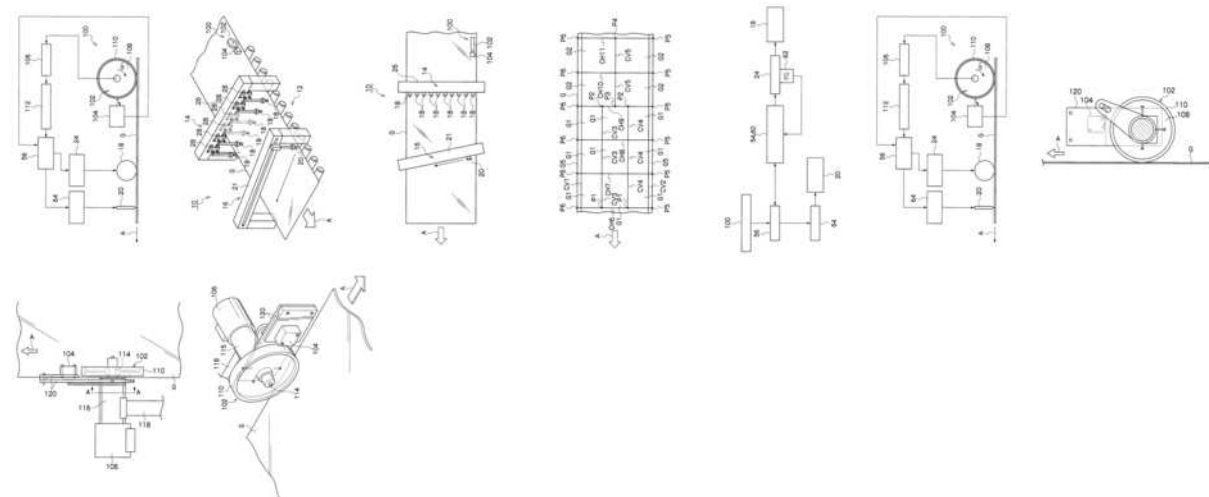
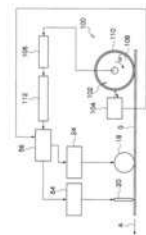
91. Apparatus and method for controlling moisture in the manufacture of glass fiber insulation US20120144868 2011-12-07 OWENS CORNING INTELLECTUAL CAPITAL* 2012-06-14 2012-06-14

Apparatus, systems and methods for monitoring and controlling the amount of moisture introduced into the forming hood area in the manufacture of mineral fiber insulation products. Moisture from coolant liquids, binder dispersions and binder diluents are all introduced deliberately into a forming hood; ambient moisture and water from combustion are additional sources. A series of global variable control valves, one for each fluid system; as well as individual variable control valves for each fiberizing unit are provided with associated meters. Sensors monitor fibrous pack conditions and ambient conditions and provide inputs to the valve control system. A specific 3-ring liquid dispensing system is also disclosed.



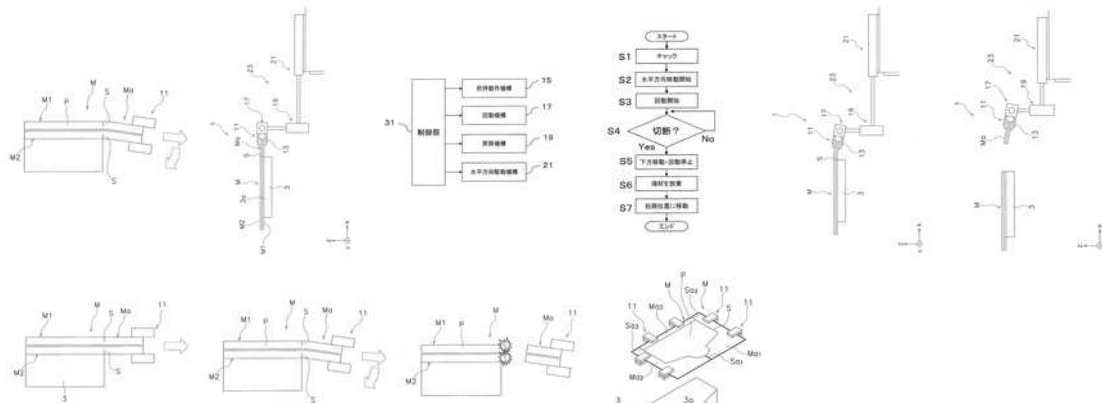
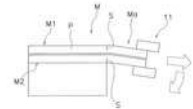
92. Device for detecting conveyance amount of plate-shaped object, device for cutting plate-shaped object, method for detecting conveyance amount of plate-shaped object, device for forming cutting line on plate-shaped object, and method for forming cutting ... KR20120062632 2010-12-06 ASAHI GLASS* 2012-06-14 2012-06-14

PROBLEM TO BE SOLVED: To provide a device for detecting the conveyance amount of a plate-shaped object which can correctly detect the conveyance amount of the plate-shaped object, and a device for cutting the plate-shaped object. SOLUTION: The gauge diameter of a roller 102 has been stored in a controller of the device 100 for detecting the conveyance amount. The controller compares this gauge diameter with the diameter of the roller 102 measured with a laser displacement gauge 104 to thereby obtain a variation, calculates a correction value corresponding to the variation, and corrects the calculated conveyance amount of strip-shaped plate glass G on the basis of the correction value. In a method for detecting the conveyance amount of the strip-shaped plate glass G with the device 100, when information showing the diameter of the roller 102 measured with the laser displacement gauge 104 is output to the controller, the controller compares the diameter with the prestored gauge diameter of the roller 102 to thereby determine a variation in the diameter of the roller 102. The controller calculates a correction value corresponding to the variation and corrects the conveyance amount of the strip-shaped plate glass G on the basis of the correction value.



93. [End material removal device and end material removal method](#) TW201733936 2016-03-29 MITSUBISHI DIAMOND INDUSTRIAL* 2017-10-01 2017-10-01

PROBLEM TO BE SOLVED: To cut out a product from a base plate without damaging the product. SOLUTION: An end material removal device 1 is a device that splits and removes an end material Ma from a base plate M in which scribe lines are formed, to cut out a product P. The end material removal device 1 comprises: a chuck member 13 and an outward moving part 23. The chuck member 13 holds an end material Ma while moving it outward to cut out the end material Ma from the product P. **SELECTED DRAWING:** Figure 7



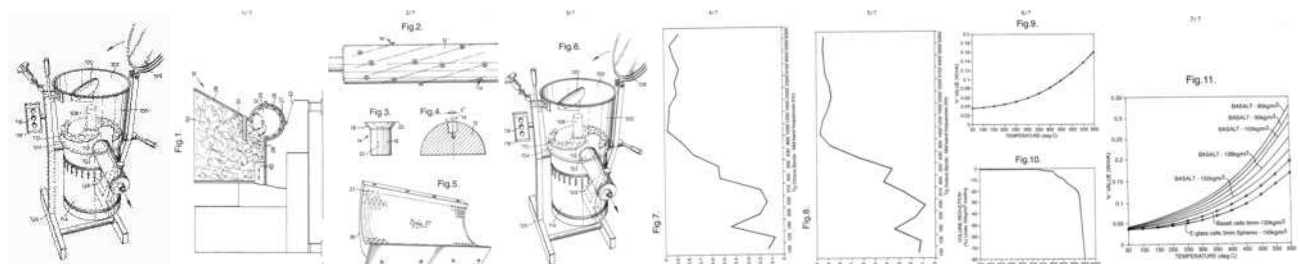
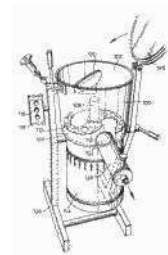
94. [Glass cutting/splitting machine and glass splitting machine](#) TWM525352 2015-12-01 EVER ADVANCED PREC TECHNOLOGY* 2016-07-11 2016-07-11

One kind of **glass** cutting lobe machine includes: A cutting platform and a support frame, this support frame supports this cutting platform, this cutting platform uses to lay aside and locate a **glass** foundation plate; One round knife unit, relative this cutting platform moves, with by cuts by the round knife way this **glass** foundation plate many dents; As well as a positive and negative barometric pressure produces the unit, connects in this cutting platform, and has the barometric pressure and negative barometric pressure separately, with by becomes this **glass** foundation plate by the positive and negative barometric pressure way lobe along this some dents many sheet **glass**.



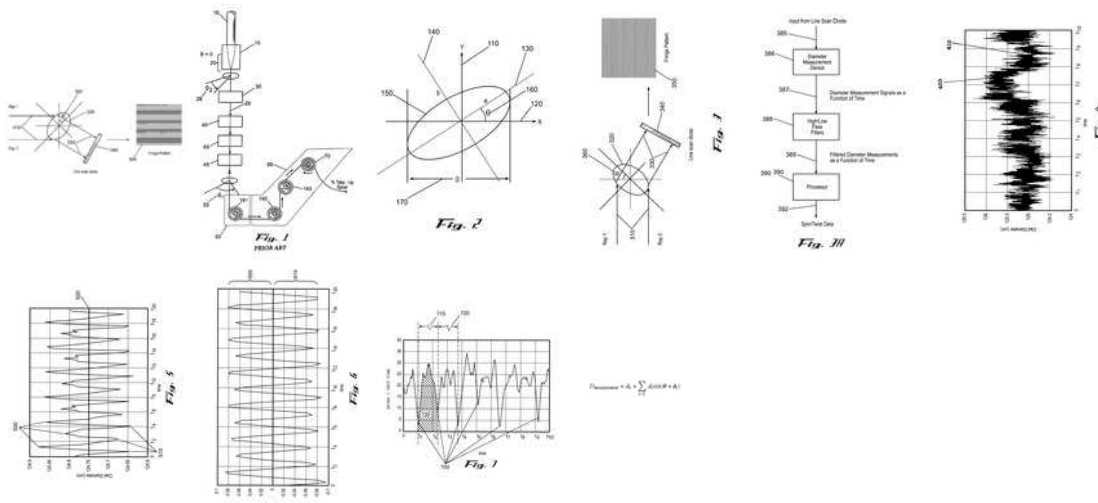
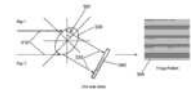
95. [Treatment of fibrous material](#) GB9808381 1998-04-22 ASSET* LANCASTER GLASS FIBRE 1998-06-17 1998-06-17

Fibrous material, such as mineral fibre, **glass** fibre, basalt fibre etc. is treated by a method involving treating a plurality of discrete fibrous chunks, each chunk comprising a mass of entangled fibres, by a mechanical tumbling action such that each chunk forms a respective denser, rounded fibrous cell with entrapped air. The cells have properties that make them useful in a wide range of applications. In particular, the entrapped air of the cells means that the cells have insulation properties, thermal and acoustic, useful in many contexts.



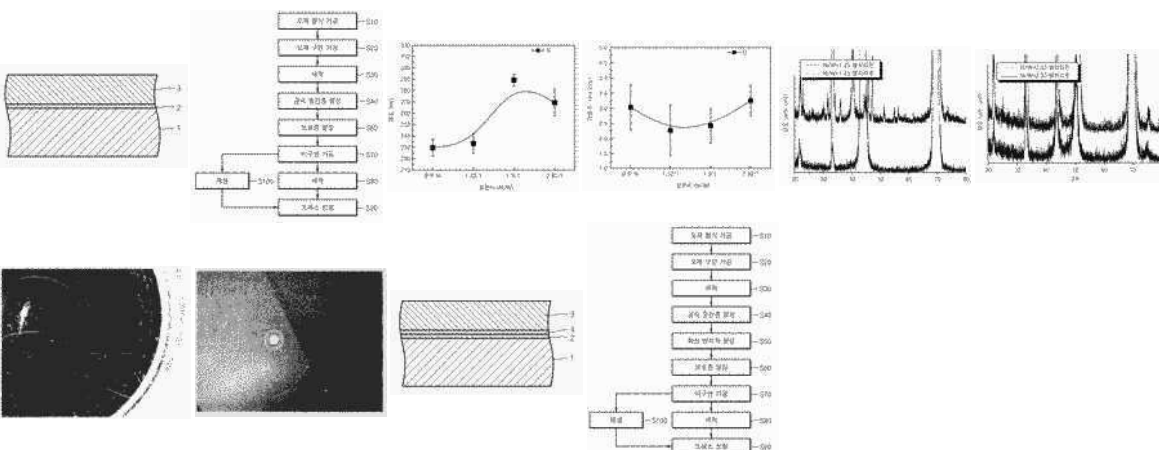
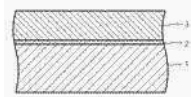
98. System and method for obtaining spin and mechanical twist data during optical fiber draw EP1384986 2002-07-23 FITEL* FURUKAWA ELECTRIC NORTH AMERICA 2004-01-28 2004-01-28

A system and method is disclosed for determining information regarding the result of introducing a rotational force on an optical fiber during manufacturing. A rotational deformation of the molten fiber, called spin, is imparted that becomes permanent upon cooling of the fiber. The rotational force also introduces twist on the cooled fiber, which is a non-permanent, mechanical rotation of the fiber. The system and method uses a diameter measuring device that produces a signal corresponding to the fiber's diameter with respect to time. Since the fiber is slightly elliptical in practice, periodic variations in the diameter measurement signal are detected that reflect the rotation imparted into the fiber. The signal is further processed to provide data regarding the effect of the rotations introduced into the fiber, namely the twist and spin present in the fiber.



99. Die for press forming of glass and method of manufacturing the same KR20080090018 2007-04-03 KOREA INSTITUTE OF MACHINERY & MATERIALS* SAMSUNG TECHWIN* 2008-10-08 2008-10-08

A glass molding die is provided to have an excellent release property, to allow precise processing easily using a bite or abrasive, and to reduce a production cost greatly by using a non-precious metal material for a release thin film. A glass molding die includes: a base material(1); and a protective layer(3) which comprises nickel-tungsten alloy and is formed on the surface of the base material. The protective layer comprises 25-45wt% of tungsten, and has a thickness of 0.1-2 micron. The die comprises a metal intermediate layer(2) formed through deposition of a metal element between the base material and the protective layer. The die comprises a diffusion prevention film between the protective layer and metal intermediate layer. Further, the diffusion prevention film comprises a metal nitride.



100. Silica microspheres, method for making and assembling same and possible uses of silica microspheres

WO2006030166

2004-09-17

RAKOTOARISON SILVA*
RAKOTOARISON SYLVAIN
SYLVAIN RAKOTOARISON
SYLVAIN RAKUTU ALLISON

2006-03-23

2006-03-23

The invention concerns silica microspheres (M) having an outer diameter between 50 and 125 μm , preferably between 60 and 90 μm , a wall thickness not less than 1 μm , preferably between 1 and 3 μm and a density between 0.3 and 0.7/cm

