

mences being less than that of the former springs, but the tension of said springs being approximately equal when the bellows is fully collapsed, substantially as set forth. 15th. In an organ, a bellows having collapsing sides all in one piece, and provided with stiffening parts whose edges determine the lines of folding in the collapse of the bellows, substantially as set forth. 16th. In an organ, in combination with the chamber through which the air reaches the reeds, a mute which controls, access of air to said chamber having a pin which projects rigidly into said chamber through an air aperture which the mute closes, and a rock shaft in said chamber protruding through one end thereof, and having an arm within the chamber which engages the pin, and an arm outside the chamber adapted to be engaged by stop mechanism, substantially as set forth. 17th. In combination with the mute and the spring which closes it, a lever arm located outside the chamber which the mute controls, and connected to the mute in such manner that the closing movement of the mute under the action of its spring operates the lever, and that the lever is adapted to operate the mute in the reverse direction, said lever having a curved end, a stop rod, and a lever actuated thereby having one end engaging said curved end of the lever arm, substantially as and for the purpose set forth.

No. 39,315. Holder for Candles. (*Porte-chandelle.*)

Gastav Gurtler, Offenbach on the Main, Great Dutchy of Hesse-Darmstadt, German Empire, 13th July, 1892; 6 years.

Claim.—An adjustable candle holder, consisting of candle clamps, *d*, *d*, pressed against the candle by means of spiral springs *h*, the clamps being guided by means of guides *t*, *t*, attached to the semi-tubes *e*, within parallel slots *f*, in the base plate *b*, the semi-tubes *e*, being attached to the candle clamps *d*, and held in position by means of an overlapping edge *g*, upon one of the projecting parts *c*, substantially as described.

No. 39,316. Apparatus for polishing Plate Glass.

(*Appareil pour polir le verre de cristal.*)

William Smith, Sutton, near St. Helens, Lancaster, England, 13th July, 1892; 6 years.

Claim.—1st. In an apparatus for grinding, smoothing and polishing plate glass, the combination of an ordinary rotating disc carrying the glass, ordinary grinding and smoothing runners carried on a carriage or gantree, travelling on rails, so that they can be removed from above the disc, with an independent polishing apparatus suspended above the disc and capable of being let down and anchored in position on the disc, substantially as described. 2nd. In combination with a horizontal disc carrying the glass, one or more frames *K*, revolvable on pivot *U*, and having, at various points round the centre, a series of discs or secondary frames *L* carrying the polishing blocks *M*, the groups *L* capable of rotating on their pivots, substantially as described. 3rd. In an apparatus for polishing plate glass, the combination of the revolving disc *A* carrying the glass, pivot *U*, anchoring rods *R*, and fixed pivots *S*, substantially as and for the purposes described. 4th. The combination of a rotary disc *A* carrying a glass, the pivot *U*, a frame *K*, carrying sockets situated round the central pivot *U*, a series of groups or discs *L*, having pivots *N* to fit loosely in the said sockets, and being free to rotate therein, the said group or disc *L* having a ring of blocks *M* carrying felt or other polishing material, and so arranged that portions of the blocks *M* shall, when in work, pass beyond the circumference of the disc *A*, whereby the overhanging corners of the glass can be polished. 5th. In combination with a rotating disc *A* carrying the glass, a frame *K*, having a pivot *U*, and sockets for connecting to the pivots a series of groups or discs *L*, each group carrying subsidiary polishing blocks *M*, all the groups *L* being at equal distances from the central pivot *U*, and all the blocks of each group *M* equally distant from the pivots *N*, whereby the weight of the main frame is equally distributed over the groups or discs *L*, and the entire weight of the main frame and the discs *L* is again equally distributed over the subsidiary blocks. 6th. In combination with the disc *A* carrying the glass, frame *K* rotating on its axis *U*, and groups or discs *L* rotating on pivots *N*, and carrying subsidiary blocks *M*, in such position that the blocks furthest from the pivot *U* are outside the circumference of the disc *A*, an optional locking device *P*, whereby each of the groups or discs *L* may have its rotative motion arrested, whereby if any of the blocks *M* should have their covering of felt, or other polishing material torn or injured, such discs or groups may be locked in such positions as to prevent the torn block passing beyond the circumference of the disc *A*. 7th. In a glass polishing apparatus, the combination of rotating frame *K*, groups or discs *L* connected therewith, but free to rise and fall, and subsidiary blocks *M* fixed to the discs *L*, whereby one or more of the subsidiary blocks *M* may go beyond the surface of the glass to be polished without any tendency to cant or tilt, the centre of gravity of each group being at all times inside the circumference of the disc *A* which carries the glass. 8th. The combination of a rotating frame *K* carrying a polishing device, and pivot *U*, with rods *R*, and stationary pivots *S*, with a hoisting device *T*, whereby the polishing apparatus can be hoisted up out of the way and held there while the grinding and smoothing is in progress, and can be let down and fixed in working position as soon as the grinding and smoothing apparatus is removed. 9th. In combination with a rotary disc *A* carrying the glass, a frame *K* free to rotate, and carrying on pivots *N* a series of

discs *L* of equal size and equally distant from said pivots, and said discs *L* carrying on their lower sides polishing surfaces symmetrically arranged round the pivots *N*, whereby the entire weight of the apparatus is equally distributed over the abrasive surfaces, and the said surfaces are free to revolve with a planetary motion, substantially as described.

No. 39,317. Separator for Granular Materials.

(*Séparateur.*)

James Higginbottom, Liverpool, England, 13th July, 1892; 6 years.

Claim.—1st. In a sieving, separator or purifying machine of the kind described, the combination with a vibratory sieving surface having, as described, a ribbed portion open to the air current and a plain portion shut off from the air current, of a flat depositing tray located above and in close proximity to the whole sieving surface and having a series of tapered orifices or nozzles narrowing upwards and arranged uniformly upon it above the ribbed portion of the sieving surface, an exhaust device adapted to produce an upward current of air through said ribbed portions and through said orifices or nozzles, and separate receptacles or shutles located directly below the ribbed and plain portions of the sieve, respectively, substantially as and for the purposes described. 2nd. In a sieving, separating or purifying machine of the kind described, a vibratory sieve having its upper surface (or the active portion thereof) divided into a series of separate sieving spaces by a series of transverse ribs resting upon said surface and of a suitable depth and pitch, having regard to the inclination of the sieve, whereby the material at all portions of the sieve surface (or of the active parts thereof) is maintained at a sufficient depth without the necessity of passing a large portion of the good material over the tail of the sieve, substantially as described. 3rd. In a sieving, separating or purifying machine of the kind described, a vibratory sieving surface having one or more of its sieving sections which are open to the uprising air current, succeeded by one or more sieving sections shut off from said air current, whereby the finer portions of the heavier material impurities is separated from the rest of the material and prevented from passing into the tails as heretofore, substantially as described. 4th. In combination with a vibrating sieve, a depositing compartment above the same, and an exhaust apparatus adapted to draw air up through the sieve and into and through the compartment, of a horizontal or nearly horizontal tray, partition or diaphragm arranged as described, a short distance above the sieve surface and perforated or provided with numerous conical or pyramidal orifices narrowing upwards and distributed in a uniform manner throughout its area (or throughout a portion thereof, as described), whereby the exit spaces for the air are narrowed to a desirable minimum, both longitudinally and transversely, and a maximum contraction and slope of passage is secured with a minimum of height and obstruction, substantially as and for the purposes described. 5th. In a sieving, separating or purifying apparatus of the kind described, the use of a series of tapered nozzles, of forms substantially such as herein set forth and for the purposes specified. 6th. The adaptation of one or more diaphragms or trays of nozzles or orifices, substantially as described, for the separation, deposition and collection of dust from dust laden air in stive rooms or other places where a column of dust laden air is in motion. 7th. In an apparatus for the separation, deposition and collection of dust from dust laden air, the combination with a series of short tapered nozzles, such as *G*, either with or without hoods, of a series of diaphragms, vanes or baffle boards, such as *M*, so arranged with respect to said nozzles as to guide and distribute the dust laden air in its passage through the apparatus and facilitate the deposition of the dust therein, substantially as described.

No. 39,318. Separator. (*Séparateur.*)

James Higginbottom, Liverpool, England, 13th July, 1892; 6 years.

Claim.—In a centrifugal separating or dressing machine of the kind described, a deflecting plate or plates *E*, placed at a suitable distance in advance of and moving with the beater or beaters *B*, and so arranged with respect to the same and to the outer perforated casing *A* of the machine, that part of the material which is located in proximity to the said casing is caught up by the advancing deflecting plate, is led inwards along its inner face, is discharged therefrom on to the face of the adjacent beater, and is thrown outwards by the direct impact of the latter against the casing, substantially as and for the purpose described.

No. 39,319. Gas or Electric Water Heater.

(*Appareil à chauffer l'eau au gaz ou à l'électricité.*)

Christopher Clift, Montreal, Quebec, Canada, 13th July, 1892; 6 years.

Claim.—1st. A heating apparatus composed of two or more integral sections with separate inlet and outlet and heating devices, all as herein set forth. 2nd. A heating section composed of three or more conduits of corrugated thin metal connected by bends, and provided with flow and return pipes, draw off cock and means for heating same by direct heat, all as herein set forth. 3rd. A heating apparatus composed of two or more integral sections, made up conduits inclined to each other with separate inlet and outlet pipes, en-