

ally by rotating it in a suitable vessel, when in a molten state, so as to separate impurities from it through the action of gravity and centrifugal force, and after the removal of such impurities stirring the slag so as to make the fused mass practically homogeneous and of uniform temperature and quality, substantially as set forth. 2nd. The method of treating slag herein described, for the purpose of making it cellular, which consists in forcing into it and intimately mingling with it, when in a molten state, carbonic acid gas and hydrogen gas, substantially as set forth. 3rd. As a new article of manufacture, an artificial paving or building block of slag, made in part solid and in part cellular, substantially as set forth. 4th. The combination, with a cellular artificial block of slag, made for paving or building purposes, of a plastic substance or covering forming a bond with the slag by entering its cells, substantially as set forth.

No. 34,019. Curve for Cash Carrier Systems.

(*Courbe pour les chiens de magasins.*)

The Union Store Service Company, East Sazinaw (assignee of Frank S. Church, Detroit), Mich., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a store service apparatus, a curved track section having arms for supporting the same, one or more of said arms being adjustable and adapted to vary the curvature of said section, substantially as described. 2nd. In a store service apparatus, a curved track section, having arms for supporting the same, one or more of said arms being provided with a turn buckle for lengthening and shortening the arms, substantially as described. 3rd. A curve for the track of a cash carrier apparatus, consisting of a curved track section, supported midway between its ends by a fixed arm, and adjustable arms located on each side of said arms, the construction being such that the curvature may be varied by lengthening or shortening the adjustable arms, substantially as described.

No. 34,020. Tuyere. (*Tuyère.*)

George Schweikhart, Wauwatosa (assignee of Jacob Stoll, Milwaukee), Wis., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a tuyere, the combination of the nozzle blast pipe and a chambered cap, having a radially slotted aperture, substantially as and for the purposes set forth. 2nd. In a tuyere, the combination, with the nozzle and blast pipe, of a chambered hemispherical cap having a spreading aperture, substantially as and for the purposes set forth. 3rd. In a tuyere, the combination, with the blast pipe and nozzle, having outwardly projecting lugs at its discharging end, and flanges a little below said lugs, of a removable chambered cap having an inwardly projecting flange, with notches therein adapted to pass over said lugs, and when turned to rest upon and be closed by the flanges on the nozzle, substantially as and for the purposes set forth. 4th. In a tuyere, the combination, with a blast pipe and frame cast in one integral piece with the polar limbs made and vertical nozzle pipe communicating therewith, of a vertical jacket surrounding the nozzle pipe and open at its lower end, substantially as and for the purposes set forth. 5th. In a tuyere, the combination, with a blast pipe and a vertical nozzle pipe communicating therewith at one side, and provided at its upper end with outwardly projecting flanges a little below said lugs, of a removable cap having an inwardly projecting flange at its base with notches therein arranged to pass over said lugs, and when the cap is turned to rest upon and be closed by the flanges on the nozzle, and a vertical jacket enclosing said nozzle pipe and having openings at its upper and lower ends, substantially as and for the purposes set forth. 6th. In a tuyere, the combination, with a blast pipe and a vertical nozzle pipe communicating laterally therewith, open at its lower end, which is provided with a gate and provided at its upper end with outwardly projecting lugs, and a little below said lugs with outwardly projecting flanges, of a removable chambered cap, having a rounded upper surface, a radially slotted aperture and an inwardly projecting flange upon and are closed by the flanges on said nozzle pipe when the cap is turned, the upper side of said inwardly projecting flange being formed with inclines which engage the lugs on the nozzle and draw the cap snugly down against the flanges therein, and a vertical jacket surrounding said nozzle pipe communicating at the upper end through the space between the nozzle and the edges of the flange on the cap, with chamber therein and open at the lower end, substantially as and for the purposes set forth.

No. 34,021. Method of Controlling the Distribution of Hydro-Carbon and other Oils for Lighting Purposes, and Means or Apparatus for Extinguishing of the Lamps used therewith. (*Mode de contrôle de la distribution des hydrocarbures et autres huiles pour l'éclairage, et moyens ou appareil pour effectuer l'allumage et l'extinction des lampes employées à cette fin.*)

The Penn Lamp and Lighting Company, London (assignee of Thomas Penn and Alfred E. Penn, Wandsworth Road), Eng., 1st April, 1890; 5 years.

Claim.—1st. In apparatus or means for supplying hydro-carbon or other oils to lamps by gravitation, a valve or plug arranged between the chamber or vessel into which the lamp wick dips, and the main oil supply tank or reservoir, the said valve or plug being connected to a float or equivalent device operated by the varying level of the oil in the wick chamber, so as to cause the valve or plug to open and close, a passage arranged in the side of the valve seat, through which oil is admitted from the reservoir to the wick chamber, the said passage being arranged at an angle to the line of motion of the valve so that the motion of the valve is not affected by the pressure of the

oil, whatever may be the position of the oil reservoir, substantially as hereinbefore described. 2nd. In apparatus for supplying hydro-carbon or other oils to lamps by gravitation, a conical valve or plug, and a correspondingly formed seating, in which it is caused to rise and fall by variations in the level of the oil in the wick chamber of the lamp, so as to open and close a passage in the valve seat to admit oil to, and maintain a constant level in the wick chamber, the passage in the valve seat being at or about a right angle to the line of motion of the valve, substantially as and for the purpose hereinbefore described. 3rd. In apparatus or means for supplying hydro-carbon and other oils to lamps by gravitation or governing device, consisting of a float, having attached thereto a conical valve hollowed out or recessed between its opposite ends, and caused to move longitudinally in a conical seat, so as to open and close a passage arranged in the seat at an angle to the line of motion of the valve, the said governing device being situated between the main oil supply reservoir and the lamp, and operating substantially in the manner hereinbefore described. 4th. For controlling the supply of hydrocarbon or other oils to lamps by gravitation, the combination of the float E in a chamber D, situated outside the lamp cylinder or chamber into which the lamp wick dips, valve G connected to the float and arranged to move in a longitudinal direction in a seat, having a passage H communicating with the oil supply reservoir, and arranged at an angle to the line of motion of the valve, substantially as and for the purpose hereinbefore described with reference to Fig. 1 of the accompanying drawings. 5th. In apparatus for controlling the supply of hydro-carbon and other oils to lamps by gravitation, the combination, with the valve G, valve seat and passage H therein, as described, of the vessel E connected to the valve, into which vessel the lamp wick dips, and which is caused by the varying level of the oil therein to rise and fall, so as to cause the valve to open and close the passage in the valve seat, substantially as and for the purpose hereinbefore described, with reference to figure 2 of the accompanying drawings. 6th. In a multi-burner bracket, pendant or the like, for burning hydro-carbon, or other oils supplied thereto by gravitation, a controlling device, constructed substantially as hereinbefore described and arranged at the junction, where the passages leading to the several burners meet, substantially as hereinbefore described with reference to Fig. 3 of the accompanying drawings. 7th. In apparatus for controlling the supply of hydro-carbon or other oils to lamps by gravitation, the combination, with the valve G and its seating, having a passage H arranged at an angle to the line of motion of the valve, of the annular float E attached to the valve G and placed in the lamp cylinder, or vessel A, into which the lamp wick dips, so as to operate the valve by the rise and fall of the level of the oil in the vessels, substantially as and for the purpose hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 8th. In lamps for burning hydro-carbon and other oils, an opening in the casing of the burner to admit of a lighted taper or other lighting appliance being passed to the burner to light the lamp without removing the chimney or shade, substantially as hereinbefore described, with reference to Fig. 4 of the accompanying drawings. 9th. In lamps for burning hydrocarbon and other oils, means for adjusting the height of the lamp with, and for raising and lowering the wick to bring it into position for lighting and for extinguishing the light, the said means consisting of a disc fast on the spindle of the wick elevator, and a lever mounted loosely on the said spindle so as to be capable of being turned thereon, and of being connected with the disc in any required position by means of a screw or pin passed through a hole in the lever, into one of a series of holes provided in the disc, so that by operating the lever either by cords or the like attached thereto or otherwise, the wick may be raised or lowered as required, substantially as hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 10th. The combination, with the subject matter of the last preceding claiming clause, of a lever on the plug of the cock on the oil supply pipe leading from the oil reservoir to the wick chamber of the lamp, the said lever being connected to the lever on the spindle of the wick elevator, substantially as and for the purpose hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 11th. In lamps for burning hydro-carbon and other oils, providing a notch or opening in the top of the wick tube for the purpose of maintaining a portion of the wick a light when the main portion of the wick is extinguished, substantially as and for the purposes hereinbefore described, with reference to Figs. 5 and 6 of the accompanying drawings. 12th. In lamps for burning hydro-carbon and other oils, an auxiliary jet, which may remain burning when the light from the main wick is extinguished, for the purpose of lighting the main wick when required, substantially as hereinbefore described with reference to Fig. 7 of the accompanying drawings. 13th. The general combination and arrangement of parts constituting an instrument for lighting elevated lamps, substantially as hereinbefore described with reference to Fig. 8 of the accompanying drawings.

No. 34,022. Joint. (*Joint.*)

Emery Nixon and Joseph Millichamp, Toronto, Ont., 1st April, 1890; 5 years.

Claim.—1st. A joint composed of a rounded tongue connected to the body of the material by a narrow neck, on each side of which is a suitably shaped and inclined abutting edge inserted in a correspondingly shaped groove, having closing jaws and abutting edges to correspond to and fit the abutting edges of the rounded tongue, substantially as and for the purpose set forth. 2nd. A joint, composed of a rounded tongue connected to the body of the material by a narrow neck, on each side of which is a suitably shaped and inclined abutting edge inserted in a correspondingly shaped groove, having closing jaws and abutting edges to correspond to and fit the abutting edges of the rounded tongue, and having a reinforcing flange extending outwards and overlapping the joint and part of the tongued piece of the material, substantially as and for the purpose set forth.

No. 34,023. Collar Stiffener. (*Renfort de col.*)

Charles Wittmann, Montreal, Que., 1st April, 1890; 5 years.

Claim.—1st. A stiffener for collars, composed of a plate or frame to be secured in neck or band of same, an arm pivoted to such plate