

ous and destructive ferments in the manufacture of syrups, sugar, or alcohol, which consists in subjecting a wort of amylaceous substances to the action of diastase and hydrofluoric acid, and subsequently adding yeast treated with hydrofluoric acid, substantially as herein set forth. 4th. In manufacturing diastase, the process of preventing the development of injurious ferment, which consists in making an infusion of malt, adding thereto hydrofluoric acid in about the proportions stated, and finally separating the dregs from the solution of diastase. 5th. The process of saccharifying amylaceous substances at a low temperature from 20° to 30° centigrade by means of an infusion of malt treated with hydrofluoric acid, substantially as and for the purposes set forth. 6th. In the process of saccharification or fermentation of amylaceous matter, the addition of the fluorine compounds herein specified to the material operated upon, instead of hydrofluoric acid, substantially as and for the purposes described. 7th. The use of hydrofluoric acid or the saline compounds of fluor for the preparation of natural or compressed yeast or barm. 8th. The employment of the acid or the compounds mentioned above in the germination of the grain with a view to its subsequent use in breweries or distilleries. 9th. The employment of hydrofluoric acid or saline compounds of fluor in breweries for the purpose of rendering fermentation uniform and of preventing injurious fermentation.

### No. 37,543. Churn. (*Baratte*.)

Dennis O'Neill, Barrie, Ontario, Canada, 6th October, 1891; 5 years.

*Claim.*—1st. In a wooden churn or receptacle, the combination of sides, ends, bottom and top, with cover therein, having a corrugated metallic false bottom laying on inside bottom, knob to remove cover, plug to draw off contents therefrom, buttons to fasten said cover, handles to oscillate said receptacle, having longitudinal rockers with mortises supporting legs, extending up the sides of body of receptacle and projecting downward on the inside of said rockers, near the bottom having means to fit mortises, substantially as set forth. 2nd. In a wooden churn or receptacle, the combination as herein described, having bottom and top rail tracing and supporting said receptacle, pins or bolts to fasten legs and rockers together, having corrugated metallic movable false bottom laying on inside bottom, or for any other desired purpose, substantially as set forth.

### No. 37,544. Method of Lining Vessels, Digestors, etc. (*Méthode de doubler les vaisseaux, digesteurs, etc.*)

Charles Kellner, Vienna, Lower Austria, Empire of Austria, 6th October, 1891; 5 years.

*Claim.*—1st. The process of making an acid-proof lining, said process consisting in cementing upon the surfaces which are intended to be lined, plates made of hard glass, substantially as and for the purpose described. 2nd. The process of making an acid-proof lining, said process consisting in cementing upon the surfaces which are intended to be lined, plates made of hard glass and provided with roughened surfaces, substantially as and for the purpose described. 3rd. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, glass plates having a rough surface, and in superposing upon the joints between the plates of a second layer of plates, and eventually of a third and fourth layer of such plates made of hard glass, substantially as and for the purpose specified. 4th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder and quartz powder, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 5th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, and chalk, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 6th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, and powdered slate, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 7th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, brick powder, and chalk, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 8th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, and powdered slate, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 9th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, brick powder, and powdered slate, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 10th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, chalk, brick powder, and powdered slate, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described. 11th. The process of making an acid-proof glass lining, said process consisting in cementing upon the surfaces which are to be lined, hard glass plates by means of a compound composed of glass powder, quartz powder, brick powder, and powdered slate, said compound being thoroughly mixed with a solution of soluble silicates (soluble glass) into a thick pulp, substantially as described.

### No. 37,545. Mowing Machine. (*Faucheuse*.)

John Fletcher Steward, Chicago, Illinois, U. S. A., 6th October, 1891; 5 years.

*Claim.*—1st. The arms  $b^2$  and  $b^3$  secured to the shaft B, and supporting the gears  $b^4$  and  $b^5$ , and the pinion  $d^1$  adapted to rotate upon the axle B and mesh into the said planet gears in combination with the internal gear C, adapted to rotate upon the same axis, and provided with suitable lugs, and the stop  $c^2$ , substantially as described. 2nd. The axle B, the supporting arm or arms, the planet gear or gears, the pinion  $d^1$ , adapted to rotate on said shaft B, the internal gear C, provided with lugs, and the stop  $c^2$  pivotally secured to the main frame, and adapted to be thrown into and out of engagement with the lugs of the said wheel C, all combined, substantially as described. 3rd. The lifting and tilting chain A<sup>2</sup>, the lever G, provided with the segment B<sup>2</sup>, and the lever  $g^2$ , in combination with the toe latch  $g^1$ , substantially as described. 4th. The combination of the shoe, the false shoe having inclined portions  $j^1$ , and the sliding piece  $j^2$ , adjustably secured to the shoe. 5th. The combination of the main shoe, the sliding support  $j^1$ , and the false shoe, the latter directed upward and recurved downward to pass through the sliding piece, substantially as described. 6th. The shoe A<sup>1</sup>, having the lugs M and M<sup>1</sup>, the coupling piece A<sup>2</sup>, having the sleeve adapted to lie between the said lugs, the hinge pin I secured from rotation in the said coupling piece, and the grass rod O, bolted thereto, all combined, substantially as described. 7th. The shoe, the coupling piece A<sup>2</sup>, and the coupling pin with a pod to which the gathering rod may be bolted, all combined, substantially as described. 8th. The combination of the hinge bar, the lifting spring supported thereon, mechanism mounted upon the said push bar and adapted to be operated by the said spring, the main frame, and suitable connecting mechanism as the rod  $h^2$ , all combined, substantially as described. 9th. The hinge bar, as A<sup>2</sup>, a suitable lever fulcrum, as  $h^1$ , secured thereto, the spring supported by and adapted to move on the hinge bar, and suitable connecting mechanism adapted to receive the pressure of the spring and to transmit the same to the said lever  $h^1$  at one end, and suitable linking mechanism, as  $h^2$ , connecting the other end of said lever to the main frame, all combined, substantially as described. 10th. The hinge bar, as A<sup>2</sup>, the spring H, mounted thereon, and the stop  $h^1$  at one end of said spring, and adapted to receive the lever  $h^1$ , and suitable slide, as  $h^2$ , adapted to receive the pressure of the spring, and suitably connected to one end of the lever  $h^1$ , and a suitable link, as  $h^2$ , connecting the main frame with the other end of the said lever, all combined, substantially as described. 11th. The hinge bar, the spring mounted thereon, the fulcrum pivot  $h^1$  suitably secured thereto, the arm of the lever  $h^1$  extending in one direction from said pivot, the spring extending along the said bar A<sup>2</sup> in the other direction, and mechanism such as described to receive the pressure of the free end of the said spring and transmit it to a lever, as  $h^1$ , and a suitable link, as  $h^2$ , connecting the other end of said lever to the main frame, all combined, substantially as described. 12th. In a mowing machine, the hinge bar, as A<sup>2</sup>, the spring mounted thereon, a suitable mechanism whereby the stress of said spring may cause a downward movement in a suitable lever, a link, as  $h^2$ , connecting said lever to the main frame, all combined, substantially as described. 13th. In a mowing machine, the hinge bar, as A<sup>2</sup>, the spring mounted thereon, a suitable mechanism whereby the stress of said spring may cause a downward movement in a suitable lever, the link, as  $h^2$ , connecting said lever to the main frame, the said link being adjustable in its length, all combined, substantially as described. 14th. In a mowing machine, a bar, as A<sup>2</sup>, adapted to rise and fall with the cutting apparatus, a spring, as H, mounted thereon, a lever, as  $h^1$ , pivoted thereon and suitably arranged and connected to be rocked in the direction of lifting the cutting apparatus by said spring, said lever connected to the main frame by means of slotted connections, as the link  $h^2$ , and slotted eye,  $h^2$ , all combined, substantially as described. 15th. The spring actuated lever  $h^1$ , connected to the main frame by a suitable link, as  $h^2$ , the said lever adapted to be drawn by the weight of the cutting apparatus to such a position that its fulcrum  $h^1$  shall be depressed so far that the action of the spring cannot be exerted to move it in the direction of producing stress upon the link  $h^2$  until the said lever has been raised by means of the lifting apparatus to such an extent that the relative downward thrust causes the said lever to be moved in the direction of the lifting until the said lever,  $h^1$ , is moved so far above a line drawn through the axis of the lever as to unlock, and thus permit the spring to move it further in the direction of lifting the said cutting apparatus. 16th. The spring actuated lever,  $h^1$ , mounted upon the hinge bar, in combination with the link  $h^2$ , connected with the main frame, and of such length as to normally draw the said lever into a locking position, in combination with a lifting apparatus controlled by the attendant, and adapted to begin the upward movement of the cutting apparatus, and thus unlock the said lever, substantially as described. 17th. The spring actuated lever  $h^1$ , mounted upon the hinge bar, in combination with the link  $h^2$ , connected to the main frame, and of such length as to normally draw the said lever into a locking position, the said lever connected to the link by slotted or other suitable connections which permit movement of one part relative to the other, whereby a slight rising and falling of the said spring actuated lever, caused by the cutting apparatus in floating over the ground, is permitted without unlocking the said lever, substantially as described. 18th. The spring actuated lever  $h^1$ , adapted to be locked into an inactive position, the link,  $h^2$ , connecting the said lever to the main frame, the said link adjustable in its length, whereby the height at which the spring actuated lever may be unlocked is made adjustable at will, substantially as described. 19th. In a mowing machine, the spring lifting devices adapted to be locked by the falling movement of the cutting apparatus, and be unlocked by the upward movement of the cutting apparatus. 20th. In a mowing machine, a spring actuated lifting device adapted to be brought to an inoperative position by the downward movement of the cutting apparatus, and brought to an active position by the upward movement of the cutting apparatus, suitable mechanism connecting the said spring lifting devices with the main frame, adjustable in its length, whereby the height at which the locking