Claim.—1st The herein described process of treating bones and animal refuse or waste for the purpose of rendering the same more suited for fertilizing purposes, which process consists in digesting the bones, etc., at a temperature below boiling point in an alkaline solution of sufficient strength, and for a sufficient time to dissolve the nitrogenous and investing membraneous matter, and bring the same into a more readily assimilable form, as described. 2nd. The herein described process of treating bones and other animal refuse or waste for the purpose of extracting gelatine, glue or size, and leaving a residue fit for use as a fertilizer which process consists essentially in digesting the bones, etc., in an alkaline solution of such strength at a temperature below boiling point for such a length of time as to dissolve a greater or less portion of the nitrogenous and investing membraneous matter, according as glue, gelatine or size is required, and separating and concentrating the solution, as herein described. 3rd. The herein described process of treating the residue from the manufacture of glue, gelatine, or size, herein described, which consists in digesting it in a strong alkaline solution, so as to completely dissolve the remaining nitrogenous matter and bring the same into a more readily assimilable form, as described.

No. 29,459. Soluble Food for Infants and Invalids. (*Aliment soluble pour les enfants et les malades*)

John Carnrick, New York, N. Y., U.S., 6th July, 1888; 5 years.

Claim.—1st. A dry powdered milk-wheat food compound, in which the caseine of cow's milk is peptonized and partially digested and and thus brought to the same soluble form as human milk, so that it will not coagulate and form indigestible curds in the child's stomach. 2nd. A soluble food devoid of malt, composed of peptonized and partially digested milk and flour, in which the starchy portion is converted into soluble starch and dextrine. 3rd. The soluble food compound in dry form, composed of about equal porportions of milk deprived of water, and having the caseine peptonized and partially digested, so as to render it in digestibility like human milk and flour, in which the starchy portion is converted into soluble starch and dextrine. 4th. Soluble food composed of partially digested milk and flour, having the starchy portion converted into soluble starch and dextrine, reduced to a dry powdered form 5th. The process of manufacturing soluble food, which consists in converting the starchy portion of the flour into dextrine and soluble starch, and partially digesting milk with a suitable digestive ferment at the proper temperature, then arresting the digestive process by increasing to a temperature of suitable degree to stop the action of the digestive agent, then concentrating the milk and mixing it with the prepared flour.

No. 29,460. Apparatus for Subjecting Textile Material to the Action of Fluids for Washing, Dyeing, Bleaching and other Processes. (*Appareil pour soumettre les matières textiles à l'action des fluides pour le dégraissage, la teinture, le blanchiment et autres procédés.*)

Carl A. G. Schmidt, Langensalza, Prussia, 6th July, 1888; 5 years.

Claim.—1st. An apparatus for washing, dyeing, or otherwise treating textile materials with fluids wherein one or more cylindrical or otherwise shaped receptacles A, contained in a vat B, charged with fluid has or have a perforated or permeable bottom beneath which a vane wheel F is made to revolve, whereby a continuous circulation of the fluid through the textile material is effected, substantially as herein described. 2nd. In apparatus such as is referred to in the preceding claim, constructing the vat B with an inwardly rounded upper edge, and providing tunnels G over the receptacles A, in order to prevent the splashing over of the liquid, and to lead the same into the receptacles. 3rd. In apparatus such as is referred to in the first claim, providing the top of the receptacles for the textile material with tightly fitting covers, for the purpose of drawing off the liquid from the material by the exhausting action of the vane-wheel, in order afterwards on opening the receptacle again, or on replacing the said cover by permeable ones to draw warm air through the materials by means of the vane-wheel for the purpose of drying them, substantially as herein described. 4th. The apparatus such as is referred to in the first claim, effecting the introduction of the liquid with which the textile materials are to be treated through a pipe C, at the side of the vat B, and communicating with the bottom thereof at D, whereby an energetic mixing of the entering liquid is effected by the revolving vane wheel, substantially as herein described.

No. 29,461. Friction Clutch. (*Embrayage à friction.*)

Hilen C. Crowell, Erie, Penn., U.S., 6th July, 1888; 5 years.

Claim.—In a friction clutch having reversely moving jaws, and a lever for moving such jaws pivoted upon an arm moving with the shaft, the combination, with such lever, and another lever for moving the first-named lever also moving with the shaft, of an inclined piece interposed between said two levers and provided with means for adjustment, substantially as described.

No. 29,462. Sheet Metal Structure, Sheets employed in such Structure and Means for Securing or Fastening them together. (*Bâtisse de métal en feuille, feuilles employées dans telle construction et moyens d'assujétir ces feuilles.*)

William Orr and Peter S. Brown, Glasgow, Scotland, 6th July, 1888; 5 years.

Claim—1st. In a sheet metal structure, the combination of the tube c having slot e throughout its length, into which is passed the the bent edges *b* of two adjacent roofing sheets *a*, and the wedge or clip having a part *d* by which the edges *b* are spread within the tube, a neck passing out through the slot, and a part *g* for the application of a key, substantially as described. 2nd. In a sheet metal structure, the combination of the tube *c* having slot *e* throughout its length, into which is passed the bent edges *b* of two adjacent sheets *a*, and the wedge or clip having a part *d* by which the edges *b* are spread within the tube, a neck passing out through the slot, a turning part *g*, and a screwed part *i* securing the structure to purline bars or supports *h*, substantially as described. 3rd In a sheet metal structure, the combination of the tube *c*, constructed as set forth, the sheets *a*, with edges bent as set forth, and the wedge or clip having a part *d* by which the bent edges *b* are spread within the tube, a neck passing out through the slot, and a palm *k* for bolting the structure to purline bars or supports *h*, substantially as described. 4th. In a sheet metal structure, the combination of a tube formed as set forth, metal sheets *a* having bent edges secured in the tube by rail-shaped wedges or clips *n* and brackets *s* by which the structure is secured to supports, substantially as described. 5th. In a sheet metal structure, the combination of a tube formed as set forth, metal sheets having bent edges inserted in the tube and secured by squeezing or hammering the edges of the slot until they grip the sheets and brackets *s*, by which the structure is secured to supports, substantially as described. 6th In a sheet metal structure, the fastener consisting of a tube *c* having a slot *e* throughout its length, into which bent edges of adjacent sheets are inserted, and sprung or spread apart by a tool inserted between said edges through the slot, substantially as described. 7th. In the construction of sheet metal structures, a metal sheet having a series of corrugations or indentations across its surface, and its longitudinal edges bent at an angle to the plane of the sheet, the said bent edges being inserted in slotted tubes, and the corrugations at the ends of one sheet superposed on those of the next, substantially as and for the purposes set forth.

No. 29,463. Grooved Pulley. (*Poulie cannelée.*)

Walter H. Avirs, York, Ont., 6th July, 1888; 5 years.

Claim.—1st. The combination, with a grooved pulley, of a rubber ring encircling the said pulley at the bottom of its groove, substantially as and for the purpose specified. 2nd A grooved pulley having a recess formed around it at the bottom of its groove, in combination with a rubber ring E inserted in the said recess, substantially as and for the purpose specified. 3rd. A grooved pulley having a recess formed around it at the bottom of its groove, in combination with a rubber tubular ring E inserted in the said recess, the said ring being filled with a core of rope or other slightly compressible material, substantially as and for the purpose specified. 4th. A pulley composed of two steel sheets A bolted or rivetted together, and having a solid metal hub C, and a groove formed around its periphery by outwardly flaring the steel sheets A, in combination with a rubber ring E inserted in the recess formed in the bottom of the groove D, substantially as and for the purpose specified.

No. 29,464. Machine for Jointing and Planing Staves. (*Machine à jointoyer et raboter les douves*)

Charles R. Penfield, Rochester, N.Y., U.S, 6th July, 1888; 5 years.

Claim—1st. In a machine for jointing staves, the combination, with the bed plate and feed rollers, of gates with crossed arms pivoted on opposite sides so as to swing in a horizontal plane, saws attached to said gates and lying in line with the edges of the staves, and cams resting between the arms for operating the gates and causing the saws to joint the staves in bilge form, as described. 2nd. In a machine for jointing staves, the combination, with the bed plate and feed rollers, of gates with crossed arms pivoted on opposite sides so as to swing in a horizontal plane, saws attached to said gates and lying in line with the edges of the staves, double cams resting between the arms for operating the gates, and an upright shaft on which the cams rest, said shaft being movable forward and back to change the throw of the gates, as herein shown and described. 3rd In a machine for jointing staves, the combination, with the bed plate and suitable feed rollers, of gates with crossed arms pivoted on opposite sides, so as to swing in a horizontal plane saws attached to said gates and lying in line with the edges of the staves, double cams on an upright shaft between the long arms of the gates, and check pieces with slotted lugs attached to the long arms of the gates against which the cams act, in the manner and for the purpose specified. 4th. In a machine for jointing staves, the combination, with the bed plate and suitable feed rollers, of gates pivoted on opposite sides so as to swing in a horizontal plane, saws attached to the gates and lying in line with the edges of the staves, double cams lying between the long arms of the gates and operating the same, said long arms being crossed in front of the cams and behind the pivots, and springs connecting the rear ends of the gates with the opposite sides of the frame, as shown and described and for the purpose specified. 5th. In a machine for jointing staves, the combination, with the bed plate and suitable feed rollers, of gates pivoted on opposite sides so as to swing in a horizontal plane, saws attached to the gates and lying in line with the edges of the staves, the upright shaft carrying cams for operating the gates, the swinging frame to which the upright shaft is attached, and a rack on the frame with which engages a worm to swing said frame forward and back, as set forth. 6th. In a machine for jointing staves, the combination, with a bed plate upon which the staves are placed, and a guide against which the edges of the staves rest, of a plunger on the bed plate which receives forward and back motion, a stud or lug standing upright on the plunger, a crank wheel above the plunger, a crank pin on the crank wheel that strikes the stud on the plunger, to give the forward movement, and a spring on the shaft of the plunger to retract the same, as herein shown and described.

No. 29,465. Tobacco Pipe. (*Pipe à fumer.*)

Frederick Roesling, Cleveland, Ohio, U.S., 6th July, 1888; 5 years.

Claim.—In a pipe, the shank B having the longitudinally extending smoke-chamber *c* in line with its stem-opening, the bowl-opening *b1*,