of the shafts by the boxes G and the arm C, the said arm connected to the axle by a clip B having a slack joint allowing vertical play and the body connected to said arm by support D having slack joints also allowing vertical play, substantially as described and for the purpose set forth. 4th. The seat Q balanced in equipoise in pivots P fore and off in a frame U, which frame is also balanced over the axle on supporting pivots P and stayed at the front by a strap Z, and at the back and sides by springs V, substantially as described and for the purpose set forth. 5th. The combination, in a two-wheeled vehicle, of the body L supported on the axle A independently of the shafts H by the spring X and boxes G and arm C, and a seat Q balanced over the axle A on pivots P and having stays allowing it to vibrate on said pivots, substantially as described and for the purpose set forth.

No. 17,418. Reinforcing Plate for Saw Handle. (*Plaque à renfort pour poigné de scie.*)

William H. Hankin, jr., Brooklyn, N. Y., U. S., 4th August, 1883; 5 years.

Claim.—1st. The combination with a saw blade and a handle, of a re-inforcing plate provided with a groove to receive the tail of the blade and applied to the bridge of the handle, substantially as described. 2nd. A re-inforcing plate for saw handles consisting of a head K, arms or wings *e e*, an intermediate groove and a bridge *f*, substantially as described.

No. 17,419. Pump. (*Pompe.*)

Mott B. Brooks, Brockville, Ont., 4th August, 1883; 5 years.

Claim.—1st. The combination of a hollow plunger head F with valves G G and inlets J J, substantially as and for the purpose set forth. 2nd. The combination of a movable cylinder A provided with openings K K in the side valve seat E with openings L L and R R combined with ring valve D having openings L L, substantially and for the purpose set forth.

No. 17,420. Process of Manufacturing Artificial Butter. (*Precédé pour manufacture le beurre artificiel.*)

John Hobbs, Boston, Mass., U. S., 4th August, 1883; 5 years.

Claim.—1st. The herein described process for the manufacture of artificial butter which consists in discharging the emulsion in small particles or streams into ice-cold water, substantially as set forth. 2nd. The process for the manufacture of artificial butter which consists in reducing the emulsion made by churning together oleomargarine and milk to spray or small streams and discharging it into ice-cold water entirely free from ice, substantially as and for the purpose specified. 3rd. The herein described process for the manufacture of artificial butter which consists in discharging the butter emulsion in small particles or streams into ice-cold water free from ice, then removing the solidified emulsion or butter from the water and placing it upon an inclined surface to drain, substantially as and for the purpose specified.

No. 17,421. Low Water Alarm for Steam Boilers. (*Alarme d'eau basse pour les bouilloires.*)

Frederick W. Menze, Bay City, Mich., U.S., 4th August, 1883; 5 years.

Claim.—1st. The combination with a pipe carrying a steam whistle at its upper end, of a cock casing on the lower end, a cock plug in the said casing, an arm or lever secured to the said plug and a float on the end of the arm or lever, substantially as shown and described. 2nd. The combination with the pipe A provided with a steam whistle at its upper end, of the cock casing B provided with an aperture F, the cock plug C, the arm or lever D and the float E on the end of the same, substantially as shown and described.

No. 17,422. Grain Thrasher and Separator. (*Batteuse-vanneuse.*)

William E. Craig, Sarnia, Ont., 4th August, 1883; 5 years.

Claim.—1st. A straw agitating device consisting of a series of broad, arms or cams placed in the spaces between the slats of the straw deck secured to one or more rocking shafts journalled below the slats of the side bars of the straw deck and receiving a suitable rocking motion, so as to cause the said arms or cams to swing up and down in the spaces between the slats and to beat against and lift the straw after being discharged from the cylinder and when passing along the straw deck. 2nd. The combination of the kickers K secured to the rocking shafts C C1 journalled below the slats B and to the side bars of the straw deck, said shafts C C1 being provided with arms or lever D to one of which is pivoted the pitman E connecting with the crank shaft G, the said shafts C C1 being connected by link rods F pivoted to the arms E to cause the kickers K to swing vertically in the spaces between the slats B forming the straw deck, all substantially as described and for the purpose set forth.

No. 17,423. Machine for Peeling and Slicing Potatoes, Fruit and Vegetables. (*Machine à peler et trancher les patates, fruits et légumes.*)

William Addison, Hamilton, Ont., 4th August, 1883; 5 years.

Claim.—A combined peeling and slicing knife for potatoes, fruits or vegetables having a hollow handle A with the blade B at one end and the scoop edges D1 and D2, the core point C and paring blade E at the other end, as set forth and described.

No. 17,424. Appliances for Portable or Traction Engines. (*Appareil pour engins portatifs ou à traction.*)

John E. Birch, Winnipeg, Man., 4th August, 1883; 5 years.

Claim.—1st. A complete endless adjustable track A B C, substantially as and for the purposes set forth. 2nd. The combination therewith and application of cogged wheels H and I to fly and driving wheels with chain K to ordinary portable engines converting same thereby into traction engines, substantially as and for the purpose set forth. 3rd. Distributing wheels L L with regulators N N T O, substantially as and for the purpose set forth. 4th. The supporting frame D D with stays F F and friction wheels E E, substantially as and for the purpose set forth.

No. 17,425. Method of Preserving Ensilage in Silos. (*Conservation des céréales dans les fosses.*)

Samuel M. Colcord, Dover, Mass., U. S., 4th August, 1883; 5 years.

Claim.—1st. The combination with a silo, of one or more pipes or passages arranged with the same and adapted to receive and collect either air, gases, water or juices from the ensilage and provided with an outlet pipe or passage, whereby the air, gases, water or juices are withdrawn from the ensilage in the silo and discharged into the surrounding atmosphere, and means afforded for introducing chemical antiseptic solutions into the ensilage, and also for ascertaining the temperature of the latter, substantially as and for the purpose set forth. 2nd. The combination with a silo of one or more frames A, each composed of a series of pipes connected together by suitable couplings and provided with an outlet or discharge pipe *g* or *m*, substantially as and for the purpose described. 3rd. The combination with a silo of the frame A placed within the same same and composed of a series of perforated pipes connected together by suitable couplings, a horizontal drip pipe *b* connected therewith and having at its outer end an outlet controlled by a plug or faucet, and the vertical pipe *g* connected with the drip pipe, all constructed to operate substantially as and for the purpose set forth. 4th. The combination with a silo of the frame A composed, of a series of pipes *a a1* having their ends 10 adapted to slide telescopically within their couplings to facilitate, their separation therefrom, and held in position by pegs or pins *e* substantially as and for the purpose described. 6th. The herein described method of preserving ensilage in silos, the same consisting in withdrawing or removing therefrom the atmospheric air and gases together with water juices, etc., by means of pipes or passages arranged within the silo and adapted to receive and collect the air, gases, water and juices and discharge the same into the surrounding atmosphere, substantially as set forth.

No. 17,426. Car Axle Box. (*Boîte à essieu de char.*)

James A. Hamilton, (assignee of George W. Sweeney,) New York, N. Y., U.S., August 4th, 1883; 5 years.

Claim.—1st. A dust-shield for a car-axle box composed of the supporting frame G provided with a flexible diaphragm F having an opening to receive the journal of the axle, in combination with the rigid ring I secured to the diaphragm at a distance from the opening to leave an inward-projecting flexible flange, which flange is capable of conforming itself to axles of varying size, substantially as described. 2nd. A dust-shield for car axle boxes composed of the supporting-frame G provided with the flexible diaphragm F having an opening and composed of two thicknesses, in combination with the rigid ring I secured between the two thicknesses at a distance from the opening to leave an inward projecting double flange *u*, substantially as described. 3rd. A dust shield for car-axle boxes composed of the supporting-frame G provided with the flexible diaphragm F having an opening and composed of two thicknesses, in combination with the rigid ring I secured between the two thicknesses at a distance from the opening to have an inward projecting flexible flange *u* and the flange J of felt or equivalent material secured to the rigid ring between the two thicknesses of the diaphragm and flush with the edge of the opening in the same, substantially as described. 4th. A dust-shield for car axle boxes composed of the supporting-frame G provided with the flexible diaphragm F composed of two thicknesses and provided with an opening to receive the axle and journal, in combination with the rigid ring I secured between the two thicknesses of the diaphragm by two annular lines of stitches, and located at a distance from the journal opening to form an inward-projecting flexible flange *u*, substantially as described. 5th. The combination, with the flexible and expansible diaphragm having a journal opening, of the diaphragm-supporting frame, divided vertically into two sections which are connected together by telescopic tubes to render the frame adjustable in width, substantially as described. 6th. The combination with the flexible and expansible diaphragm having a journal-opening, of the diaphragm supporting frame divided vertically into two sections, the telescopic tubes connecting the frame-sections with each other, and the spiral springs arranged in said tubes to act on both frame sections, substantially as and for the purpose described. 7th. The combination with an axle-box and the journal of a car-axle, of the journal cap Q1 provided with an attached case Q, within the axle box and the coiled spring located in the case to act on the end of the journal, substantially as described. 8th. The combination with an axle-box and the journal of a car-axle, of the journal cap Q1 provided with a case Q within the axle-box, an independent washer P arranged to bear against the end of the journal, and the coiled spring O located within the case and having one end bearing on the washer and the other against the case, substantially as described. 9th. The combination with a car axle box and car-axle journal, of the washer bearing on the end of the axle, the spring bearing on the washer, the spring casing attached to the cap of the journal and provided at its open end with a recess to receive the washer, and the screw-bolt having its head sunken into the face of the washer and extending through the closed end of the spring-casing where it is provided with a nut, substantially as and for the purpose described. 10th. The combination of the axle-box and the detachable oil-receptacle having its top wall provided with perforations with the wick-tubes T, arranged in said perforations and having lateral flanges at their upper ends which rest on the top wall of the oil receptacle, substantially as described. 11th. The combination of the axle-box and the detachable oil-receptacle having its top wall perforated with the wick-tubes T supported at their upper ends in said perforations, and having at their lower ends the inwardly-projecting flanges