

manner specified. 2nd. In combination with the plow beam *a*, the notched and grooved saddle *s*, the ribbed standard *d* and clip *t*. 3rd. In combination with the beam *a* formed with notches in the flanges, the notched and grooved saddle *s* adapted to hold and adjust the standard *d* and affix the same. 4th. The combination of the jointer or coultter, with the standard *d*, by means of a segmental curved shank for changing the pitch of the jointer properly. 5th. The combination of the plow beam having its rear end curved below the pivoted point of contact with the standard, with said standard *b*.

No. 11,459. Improvements on Vehicle Springs. (*Perfectionnements aux ressorts des voitures.*)

Horace M. Keith, Commerce, and Joel P. Harger, Pontiac, Mich., U. S., 6th July, 1880; for 5 years.

Claim.—1st. The combination of end cross bearing bars for the wagon box with a series of semi-elliptical springs, and one or more middle cross bars forming a bolster attachment, said springs arranged to cross the bolster, and their connecting bars broad cross bearing for wagon box. 2nd. The combination of end bearing bars for the wagon box, with a series of semi-elliptical springs, middle cross bars connecting the springs with the bolster, and cross cleats upon the wagon box bottom. 3rd. The combination of the semi-elliptical springs arranged across the bolster, and the end bearing cross bars to which they are connected, with end roller bearings for said springs carried by said end bearing cross bars. 4th. The cross bars under the springs forming the bolster socket, in combination with the end bearing cross bars and the series of springs. 5th. The end bearing cross bars shod with a metallic covering rounded at the edge, to permit of free movement. 6th. The combination of the end bearing cross bars, a series of semi-elliptical springs crossing the bolster and held to action thereby, the socket for the bolster, the bolster and cross cleats upon the wagon box bottom. 7th. The cross bars or bearings provided with receiving holes for the springs, a bearing roller, and shod or covered with metal.

No. 11,460. Improvements in the Manufacture of Vulcanized India Rubber Products Including Heveenoid. (*Perfectionnements dans la fabrication des produits de caoutchouc vulcanisé y compris l'hévéenoid.*)

Henry Gerner, New York, U. S., 6th July, 1880; for 5 years.

Claim.—1st. The process of mixing, in proportions productive of either hard, semi hard or soft materials, India rubber, camphor and sulphur, together with the flours of such agricultural germs, fruits, grains and seeds as contain sulphur, such as wheat, rye, barley, oats, corn, rape, flax, mustard, &c., and then properly vulcanizing the mixture. 2nd. The process of mixing, in proportions productive of either hard, semi-hard or soft materials, India rubber, camphor and sulphur together, such as rice, hemp, poppy lentils, clover, sorghum, vetches, &c., and chestnuts, acorns and other nuts and then properly vulcanizing the mixture. 3rd. The process of mixing, in proportions productive of either hard, semi-hard or soft materials, India rubber and sulphur together with the flours of such agricultural germs, fruits, grains and seeds, as have been hereinbefore enumerated, whether containing sulphur or not, and then properly vulcanizing the mixture. 4th. A product or species of heveenoid consisting of a mixture of India-rubber, camphor, sulphur and the flours of such agricultural germs, fruits, grains and seeds, as have been hereinbefore mentioned, whether containing sulphur or not. 5th. A product or species of vulcanized India-rubber, consisting of India-rubber, sulphur and the flours of such agricultural germs, fruits, grains and seeds, as have been hereinbefore mentioned, whether containing sulphur or not.

No. 11,461. Improvements on Pneumatic Grain Elevators. (*Perfectionnements aux élévateurs pneumatiques à grain.*)

John B. Stoner, Toledo, Ohio, U. S., 6th July, 1880; for 5 years.

Claim.—1st. In a grain elevator, a pneumatic tube extending from the point of supply to the point of delivery, having a suitable screen pivoted over the same, and connected with a suitable air-exhausting apparatus whereby the pressure may be relieved from above the grain and the same be elevated by atmospheric pressure to one or more points of delivery. 2nd. In combination with the pneumatic tube, a hopper having two compartments and connected to the tube at its delivery point by means of a flexible connection, the said compartments being provided with suitable valves and mechanism for operating the same, whereby the grain may be alternately received and transferred to a point desired. 3rd. The combination with the pneumatic conveying tube and the receiving hopper of an adjustable screen, whereby the grain may be delivered to said hopper or directed to one or more additional hoppers. 4th. In combination with the grain receiving hopper and the upper and lower alternately acting valves; one or more air tubes in each compartment, adapted to admit and discharge a current of air alternately against the upper valves in the respective compartments, whereby the induction valve in each compartment will be closed as the induction valve is opened. 5th. In combination with the upper and lower alternately acting valves, for admitting grain to the respective compartments of the hoppers, the levers operated by the lower valves to automatically open the upper valves and admit the grain to each compartment. 6th. In combination with a grain conveying pneumatic tube, a rising and falling hopper and air tight flexible connection between said tube and hopper, and devices for latching and unlatching, or opening and closing, a valve or valves of said hopper, said devices being operated or permitted to operate by the rising and falling of the hopper. 7th. In combination with the hopper, a pneumatic tube, the transverse area of which from the point of delivery to the exhaust is larger than from the point of supply to the point of delivery, whereby the friction of the air through the enlarged areas is lessened. 8th. In combination with a pneumatic tube for transferring and delivering grain, one or more hoppers connected with said tube by a flexible connection, whereby the hopper is permitted to rise and fall without destroying the vacuum.

No. 11,462. Improvements on Grain Scorers. (*Perfectionnements aux compteurs à grain.*)

Simon T. Elliott and William D. Elliott, Ettrick, Ont., 6th July, 1880; for 5 years.

Claim.—1st. The combination of the hooked rod *A*, ratchet wheel *B*, pivoted arm *C*, spring *D*, striker *E* and bolt *F*. 2nd. The combination of the plunger *G*, cog-wheel *H*, ratchet wheel *H*, springs *I* and dog *J*. 3rd. The combination of the wheels *K* *L* *M*, spring *N* and dog *O*.

No. 11,463. Improvements on Injectors Serving as Condensers. (*Perfectionnements aux injecteurs servant de condenseurs.*)

Gaspare Mazza, Turin, Italy, 6th July, 1880; for 15 years.

Claim.—1st. The combination of a condensing and feed injector in which the steam jet, passing in an annular shape through one or more concentric cones *C*, meets the feed water and is condensed by it before meeting with the central jet of steam coming from the boiler. 2nd. The adjustment of the cones *M* *N* combinedly, by which the distance between the same varies whilst regulating the port hole for the admission of the water, whether this result be obtained by means of two eccentrics, each having a different stroke, or by any other means. 3rd. The combination, in one single apparatus, of an ordinary injector and a condensing injector.

No. 11,464. Improvements on Milk Cans. (*Perfectionnements aux bidons à lait.*)

Frederick J. Lee, Mallorytown, Ont., 6th July, 1880; for 5 years.

Claim.—1st. A milk can *A* provided with a spring weighing balance consisting of bars *B* *B*, slide *C*, spring *E* and arm *G* carrying a marker *H* attached to its side with a removable scale card *I*, whereby when lifting the can by the eye *K*, the marker will register the weight. 2nd. The door or cover *N* hinged to the can, to enclose the spring *E* and card *I*.

No. 11,465. Improvements on Plough Beams. (*Perfectionnements aux axes des charrues.*)

Harry Wiard, Syracuse, N. Y., U. S., 6th July, 1880; for 5 years.

Claim.—1st. The wrought metal plough beam constructed from a rolled bar. 2nd. The front end of the plough beam with a heading piece *A* affixed thereto. 3rd. The rear end of the beam formed by bending and cutting into shape without welding.

No. 11,466. Improvements on Pumps. (*Perfectionnements aux pompes.*)

Isaac Shupe, Newmarket, Ont. (Assignee of John O. Stouffer, Green Spring, Pa., U. S.), 6th July, 1880; for 5 years.

Claim.—1st. The combination, with the plunger *B*, of the pump cylinder *A* with valve seat *b*, flat disc *c* in the cage *d*, tubular brace *D* having opening *k* and spout *C*. 2nd. The overflow opening *k* located beneath the cross brace *D* and opening downward.

No. 11,467. Improvements in Liquid Fuel Burners. (*Perfectionnements aux fourneaux à combustible liquide.*)

Henry A. Bradley, New York, U. S., 6th July, 1880; for 5 years.

Claim.—The combination of the shell *A* containing chambers *a* *b* and outlet *k*, with the spindle valve *F* which is hollow above its valve portion, and provided with the aperture *i* at its valve portion. 2nd. The combination of two or more spindles valves *F* *F* with the shell *A*, having partition *D* and two or more outlets *k*. 3rd. The shell *A* having partition *D* and inner pipe *E*, and provided with one or more valve seats *f*, in the partition, and with an outlet *k* above each valve seat, for combined action with one or more spindle valves *F* having aperture *i* and inner bore *j*. 4th. The combination of the shell *A* containing chambers *a* *b*, with the spindle valve or valves *F*, and with the packing box *Z* above the valve proper *c*, the spindle valve having a screw thread below said valve proper. 5th. The combination of the shell *A* which is made in one piece with the bottom plate *C*, with the removable top plate *B* and fastening bolts *x*, and with one or more vertically movable spindle valves.

No. 11,468. Improvements on Horse Shoes. (*Perfectionnements aux fers à cheval.*)

Gelos L. Potvin, Alpena, Mich., U. S., 6th July, 1880; for 5 years.

Claim.—1st. In combination with a horseshoe, a toe calk *D* provided with a dovetail stud *d* and a clip *c*, and secured to the shoe by means of a screw. 2nd. In combination with a horseshoe, the heel calks *B* provided with dovetail studs *b* which fit in correspondingly shaped slot *a* in the heel of the shoe, and secured to place by screws *e*.

No. 11,469. Improvements in Harvesters. (*Perfectionnements dans les moissonneuses.*)

Christopher C. Bradley, Syracuse, N. Y., U. S., 10th July, 1880; (Re-issue of Patent No. 6,605.)

Claim.—1st. A lever to angle the finger bar mounted upon the frame, at a point outside and in front of the drive wheel, and in combination with the finger bar. 2nd. The rectangular main frame, mounted upon the axis of and enclosing the drive wheel, in combination with the cutter bar by means of a post and slide connection which permits of a movement, in a horizontal plane, of the cutter bar and platform when they are raised or lowered. 3rd. The combination of a rectangular main frame mounted upon and enclosing the drive wheel, a cutter bar connected with the main frame by a slide connection which allows of a movement, in a horizontal plane, of the cutter bar and platform when they are raised and lowered, a device upon the main frame for raising and lowering the platform, and a pole or tongue adjustably hinged to the main frame. 4th. A rectangular main frame mounted upon the axis of and enclosing the drive wheel, in