No. 11,532. Improvements in Piston Packing. (*Perfectionnements aux garnitures des pistons.*)

Josiah A. Osgood, Grantville, Mass., and Edwin P. Munroe, New York, U. S., 24th July, 1880; for 5 years.

Claim.—1st. In packing devices for valve or piston rods, the rigid or non-compressible sliding chock for the packing cup. 2nd. In combination, in a packing device, for valves or piston rods, a rigid or non-compressible sliding chock G, a spring F and follower D. 3rd. In combination, the rigid non-compressible sliding chock G, spring F, follower D, packing cup *a* and a packing.

No. 11,533. Improvements on the Process of Making Whiskey. (*Perfectionnements aux procédés de fabrication de l'eau de vie.*)

Marshall J. Allen, New York, and William E. Bradley, Frankfort, Ky., 24th July, 1880; for 5 years.

Claim.—In the manufacture of whiskey, the process of saving the sugar and starch contained in a waste product, and utilizing the same, which consists in freeing the slop from the bran, chaff and coarse particles of grain, and introducing the liquid thus obtained in place of water, in the succeeding operations with fresh grain.

No. 11,534. Improvements on Asphaltum Pipes. (*Perfectionnements aux tuyaux en asphalte.*)

Thaddeus H. Walsh, New York, U. S., 24th July, 1880; for 5 years.

Claim.—1st. A pipe for conveying water, gas and other fluids, consisting of smooth sheet metal rolled in volute form and provided with intervening and covering layers of asphaltum or similar material. 2nd. The bands *a* combined with asphaltum pipe as a covering at the ends. 3rd. Asphaltum pipe having the bands *a* fitted to its ends, in combination with sleeve D_1 having soft metal lining.

No. 11,535. Improvements on Lacing Hooks for Boots and Shoes. (*Perfectionnements aux crochets pour lacer les chaussures.*)

Mellen Bray, Newton, (Assignee of George Van Horne, Boston,) Mass., U.S., 24th July, 1880; for 15 years.

Claim.—1st. A lacing hook-head composed of two loops or eyes *b d* arranged one above and parallel, or nearly so, to the other and connected together by a neck *c* located eccentrically to, or at one side of, said loops or eyes, in combination with a tubular rivet, inserted through one of said eyes and adapted to secure said hook head to the material. 2nd. A lacing hook head composed of two loops or eyes *b d* arranged one above and parallel, or nearly so, to the other and connected together by a double neck *c* located eccentrically to, or at one side of said loops or eyes all made from a single piece of wire, in combination with a tubular rivet *a* inserted in one of said eyes, as a means of securing said hook head to the material.

No. 11,536. Improvements on Refrigerating Apparatus. (*Perfectionnements aux appareils frigorifiques.*)

Gustavus F. Swift, Chicago, Ill., (Assignee of Andrew J. Chase, Boston, Mass.,) U.S., 24th July, 1880; for 5 years.

Claim.—1st. In a refrigerating apparatus, the air-condensing chamber arranged within the refrigerating tank and formed with corrugated walls in order to present an extended cooling surface. 2nd. The air condensing chamber having corrugated walls, in combination with a surrounding refrigerating tank also formed with corrugations. 3rd. The refrigerating tank I provided near its base with a hand hole, to facilitate the removal of sediment, said hand hole being closed by a suitable plug or stopper.

No. 11,537. Improvements on Plane Bevelling Gauges. (*Perfectionnements aux guide rabots à chanfreiner.*)

Cyrus Kinney, Windsor, and Anthony Neville, Hamilton, Ont., 24th July, 1880; for 5 years.

Claim.—The hinged plate C, groove F, thumb screw G, extension piece H I and set screw *j* for attaching to a plane.

No. 11,538. Improvements on Hand Hoes. (*Perfectionnements aux sarcloirs.*)

Robert L. Turner, Hartland, Ohio, U. S., 24th July, 1880; for 5 years.

Claim—A handle A having the main portion C of its blade offset from the longitudinal axis of the handle in a plane parallel therewith, and curved portion D terminating in oblique extremity E.

No. 11,539. Improvements on Grinding Mills. (*Perfectionnements aux moulins à moudre.*)

John Stevens, Neenah, Wis., U.S., 24th July, 1880; for 5 years.

Claim.—1st. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel grooves with rounded dividing ribs trending lengthwise of the rolls. 2nd. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel grooves and rounded dividing ribs laid so as to cross each other on the contiguous surfaces of the rolls. 3rd. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel spiral grooves with rounded dividing ribs running in the same direction on each roll. 4th. The combination of a series of sets of rolls, provided with the grooved dress and graded in respect to fineness of dress, with bolts intermediate between each set and the succeeding set of rolls. 5th. The process of reducing grain to flour in passing it through sets of rolls graded in respect to fineness of dress, and through rolls intermediate between each set and the succeeding set of rolls.

No. 11,540. Improvements on Dust Pans. (*Perfectionnements aux porte-ordures.*)

George A. Pierce, Stanstead, Que., (Assignee of Mary F. Pierce, Boston, Mass., U.S.,) 24th July, 1880; for 5 years.

Claim.—1st. The flat portion or bottom B, the protector C and slipper A. 2nd. The combination of a dust pan and a slipper shaped attachment. 3rd. The combination with a dust pan a foot piece extending beneath the dust protector.

No. 11,541. Apparatus for Moistening the Atmosphere. (*Appareil pour humecter l'atmosphère.*)

James G. Garland, Biddeford, Me., U.S., 24th July, 1880; for 5 years.

Claim—The combination of the water pipe A, air or steam pipe B or C, branch pipes *a b* and branch air or steam pipes *c*, said parts being arranged in relation to each other and connected to the water supply and to the steam or air supply.

No. 11,542. Improvements in Stump Pullers. (*Perfectionnements aux arrache-souches.*)

Bradford S. Miles, Gray's Summit, Mo., U.S., 24th June, 1880; for 5 years.

Claim—1st. The combination, in a stump extractor, of a frame provided with two capstans connected, by means of suitable chains, to a pulley mounted on a shaft carrying a windlass having oppositely wound lifting chains, whereby said windlass may be operated alternately in opposite directions. 2nd. The combination, in a stump extractor, of the supporting and guide wheels, the capstans and pulley mounted on the windlass shaft, the windlass and its oppositely wound lifting chains and the drums on the capstans and windlass.

No. 11,543. Improvements on Grinding Mills. (*Perfectionnements aux moulins à moudre.*)

John Stevens, Neenah, Wis., U.S., 24th July, 1880; for 5 years.

Claim—1st. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of fine parallel grooves laid near together with appreciable plane surface between, and so as to cross each other on the contiguous surfaces of the rolls. 2nd. The combination of rolls geared to revolve at different peripheral rates of speed, and having a dress composed of fine parallel grooves laid near together with appreciable plane surface between and running in the same direction on each roll.

No. 11,544. Improvements on Boots and Shoes. (*Perfectionnements aux chaussures.*)

William H. Hannaford, Chicago, Ill., U.S., 24th July, 1880; for 5 years.

Claim.—1st. The elastic middle sole D provided with air chambers, in combination with the insole B having apertures *b* b_1, and the air duct H situated above the vamp, whereby air is alternately forced into, and expelled from the interior of the shoe. 2nd. The elastic middle sole D provided with apertures *d* and bottom channels d_1, in combination with the insole and a single flexible air duct provided with a valve *h* and communicating both with the interior of the shoe and with the outside air. 3rd. The elastic heel lift L provided with apertures l_1, communicating with the interior of the shoe by apertures b_1 at the heel thereof. 4th. A boot or shoe having a middle elastic sole D with channels and perforations formed therein, an insole having perforations *b* b_1, a supplementary inner sole K perforated and channelled and air ducts H I_1 *i*.

No. 11,545. Improvements on Carpet Sweepers. (*Perfectionnements aux balayeuses des tapis.*)

Henry S. Wing, Detroit, Mich., U.S, 24th July, 1880; for 5 years.

Claim—1st. In a carpet sweeper, the combination, with a case having its top provided with the transverse slot or slots and a handle projecting through the latter, of the pivotal bearings secured directly to the interior of the sweeper case. 2nd. The combination, with a can whose top is provided with a transverse slot or slots, and a handle which projects through the latter, of the bearings depending from the case top and to which the handle is pivoted. 3rd. The combination, with one or both of the drive wheels, of journal bearings, which bearings slide to and from the friction roller in suitable slots or on suitable pins, and in connection therewith, a spring so connected with the slide bearing and the case as by its retraction to force the drive wheels against the friction roller. 4th. The combination with a slide bearing, of a spring attached at its middle portion to the bearing in connection with studs projecting from the case above and below the bearings, and engaging with the ends of the spring whereby the bearing is forced toward the friction roller. 5th. The combination, with a dust pan pivoted at one side of its longitudinal centre to the casing or chamber, of the tilting levers and the connecting rods, whereby they are connected with the dust pans. 6th. The combination, with a revolving brush and dust pans located on opposite sides thereof, each of said dust pans being pivoted at one side of its longitudinal centre to the casing or chamber, of jointed levers, the lower arms of which are pivoted to the ends of the dust pans, while their upper arms extend upwardly above the chamber or casing and in close proximity to each other, to enable both pans to be emptied simultaneously by forcing the upper free ends of the levers toward each other by the thumb and fingers of the hand. 7th. The combination, with the revolving brush and casing, of the dust pan, said dust pan provided at each end at points outside of its longitudinal centre to the casing, said dust pan provided with one side piece and two end pieces, and its bottom formed to extend beneath the side of the chamber or casing. 8th. A dust pan made to extend upward and from one side of the sweeper case, said dust pan being hinged at its upper edge. 9th. A case consisting of end pieces, with a central upper piece connecting the ends and provided with dust pans, the backs of which extend upward forming the sides of the case and hinged at their upper portions to opposite sides of said top. 10th. The combination, with the top piece and a spring secured thereto, of a dust pan forming one side end of the case and hinged at its upper portion to said top piece and the pan being provided with