P screwing on the end. 4th. The handle S having trunions inserted in removable bearings U bolted to flanged brackets T secured to the pump post G.

No. 14,372. Improvement on Lumber Sorters. (*Perfectionement aux distributeurs du bois de sciage.*)

Evan T. Davies, Manistee, Mich., U. S., 10th March, 1882; for 5 years.

Claim.—1st. The combination, with the saw-mill delivery rolls, of the series of separate endless chain carriers made adjustable and adapted to deliver the lumber at varying distances. 2nd. The combination, with the rolls B, of the endless apron F and chains H extending at the lower and under rollers B, the connected crossheads M L attached to posts K, the shaft N, the pivoted skids O overlapping each other, and the endless chains Q passing over shaft wheels P and skid wheels R to operate together. 3rd. The combination, with the shafts J Y that carry the driving chain wheels J P, of the endless chains H Q of the gear-wheels S T and the shaft U, whereby the several endless chains are driven at the same time.

No. 14,373. Process and Machinery for Making Cruppers. (*Procédé et machine pour la fabrication des croupières.*)

Joseph Shaffer, Dayton, Ohio, U. S., 10th March, 1882; for 5 years.

Claim.—1st. The process for making leather cruppers by swaging and stretching the leather in a die, subjecting the same to pressure in a press, stitching the edges to form a tube, filling said tube with proper filling material, to give the crupper its proper sectional shape and rigidity, and finally bending and stretching the tube so filled to form the finished crupper. 2nd. In a machine for the manufacture of leather cruppers, the die A having an external gutter or channel and provided with the stretcher bar B, carrying clamping jaws C, in combination with the mandrel G adapted to fit into the gutter or channel of the die A. 3rd. The press consisting of a base-plate H with a die support F and provided with clamping jaws to embrace the intermediate die. 4th. The clamping and bending lever L provided with a gutter or channel *f* and carrying a stretching plate R, whereby the crupper is given its final shape.

No. 14,374. Improvements on Burglar Alarms. (*Perfectionnements aux alarme-voleurs*)

George G. Schwanz, (assignee of Jerome Giles,) South Bend, Ind., U. S. 10th March, 1882; for 5 years.

Claim.—As an article of manufacture, the flat steel U-shaped spring A, the short leg of which is provided with the nipple B and screw-holes *c*, and the long leg of which is provided with the aperture *d* and arranged, when not under strain, to rest upon the nipple B.

No. 14,375. Improvements on Ditching Machines. (*Perfectionnements dans les machines à fossoyer.*)

Joseph L. House, Hutchison, Min., U. S., 10th March, 1882; for 5 years.

Claim.—1st. In ploughs and similar machines or implements, a mould board, a portion of which is composed of sections adapted to be thrown outward to remove the earth when the plough becomes clogged. 2nd. The combination of the share C and hinged sections G_2 G_3 G_4. 3rd. The combination of the share C, angular side cullers b_1 b_2 and colters r_1 r_2. 4th. The combination of the share C, movable sections G_2 G_3 G_4 and curved plate F. 5th. The combination, with a ditching plough, of wheels H_2 H_3 and truck N_1 N_2 N_3, whereby, when the plough is reversed, it may be easily moved about. 6th. The combination of the share C, bottom plate R_1 and angular side plates R_2 R_3, with the frame of a ditching plough.

No. 14,376. Improvements on Waggons.

(*Perfectionnements aux wagons*)

James T. Gurney and Warren D. Smith, Boston, Mass., U. S., 10th March, 1882; for 5 years.

Claim.—The combination, with the bearer C, of the futchels D provided, at their front ends, with a step or steps H, and supported, at their rear ends, against upward thrust.

No. 14,377. Improvements in Garden Rakes.

(*Perfectionnements aux rateaux des jardins.*)

William Chaplin, St. Catharines, Ont., (Assignee of Warren A. Cowdery, Ashtabula, Ohio, U. S.,) 10th March, 1882; for 5 years.

Claim.—In a rake having its head sheared longtitudinally from its opposite ends, and the sheared portions bent around and welded together forming the rake head braces and tang of a single piece of metal.

No. 14,378. Improvement in Long Leg Boots. (*Perfectionnement des bottes à tiges.*)

Robert Church, St. Lambert, Que., 10th March, 1882; for 5 years.

Claim.—1st. The leg blank of the shape shown, forming diagonal side seam and having incision B. 2nd. In the leg blank of a long leg boot, the incision B broader at or near its upper end then at the edge of the blank. 3rd. In the leg blank of a long leg boot, the combination, with the incision formed in the rear thereof, of a piece C of scrap stock inserted under the blank and sewn thereto.

No. 14,379. Improvements in Mechanism for Imparting Motion from a Treadle or a Vibrating Motor. (*Perfectionnements dans le mécanisme à donner le mouvement à un moteur à pédale ou à oscillation.*)

James McDougall, Montreal, Que., 5th March, 1882; for 5 years.

Claim.—In a machine to which rotary motion is imparted from a treadle, the crank shaft carried at one end on a pin screwed into solid bearing, and at the other on a pin slipped into solid bearing, said pin having formed on it a flattened surface on which works set screw, securing it in place, and being pressed outwards by spring contained in bearing.

No. 14,380. Improvements on Dynamo-Electric Machines. (*Perfectionnements aux machines electro-dynamiques.*)

The European Electric Company, (Assignee of Charles A. Hussey, New York, U. S., 10th March, 1882; for 5 years.

Claim.—1st. The combination, in a dynamo-electric machine, of a field magnet and an armature, severally having cores composed of arc-shaped portions wound with wire, intervening arc-shaped portions and radial portions connecting the two series of arc-shaped portions, the radial portions of both the field magnet and armature forming poles, polar extensions or consequent points and extending towards each other. 2nd. A field magnet, for a dynamo-electric machine, having a core composed of arc-shaped portions wound with coils of wire, intervening arc-shaped portions of shorter radii, and radial portions which connect the two series of arc-shaped portions. 3rd. The combination, with a dynamo-electric machine, of a field magnet having a core made of one integral piece of metal and an armature having a core composed of a number of pieces or plates of metal, both cores having a corresponding number of arc-shaped portions wound with wire, from which extend radial portions forming poles, polar extensions or consequent points. 4th. The combination, with a field magnet and armature, in a dynamo-electric machine, of means whereby a current of electricity may be made to traverse the coils of the field magnet from a source outside the machine, and the circuit between the coils of wire of the field magnet, and the coils of the armature may be severed to cause the machine to produce an alternate current or currents, or whereby the supply of electrcity to the coils of the field magnet, from an outside source, may be cut off, and the circuit established between the coils of wire of the field magnet and the coils of the armature, to cause the machine to produce a direct current of electricity. 5th The combination, with a field magnet and armature, in a dynamo-electric machine, of switches and suitable connecting wire, whereby a current of electricity from a source outside of the machine may be made to traverse the coils of the field magnet and circuit, between the coils of wire of the field magnet, and the coils of the armature may be severed, or the supply of electricity to the coils of the field magnet from an outside source may be cut off, and the circuit established between the coils of the field magnet and the coils of the armature. 6th. The combination, with a dynamo-electric machine and an outside circuit, of wires N communicating with the wires *b* of the field magnet, the wires *d* of the armature, the rings D D_1, the brushes E E_1, the wire *e e*, the switches K K_1 controlling communication between the wires *e* e_1 and the outside circuit, the commutator H to which the wires *d* of the armature also lead, the wires *g h*, the switch M, the wire *j*, the wire g_1, the switch M_1 and the wire *i*.

No 14,381. Improvements on Harvesters.

(*Perfectionnements aux moissonneuses.*)

Luther D. Sawyer, Jonathan Ames and Henry P. Coburn, (Assignees of Robert Christie,) Hamilton, Ont., 10th March, 1882; for 5 years.

Claim.—1st. The combination, with the rake head cam of a harvester, of the recess *f* in the lug E, and the same being made of chilled iron. 2nd. The combination, with the lug E of a harvester rake head cam A, of the chilled cast iron projecting bearing *g* to carry the pinion F. 3rd. In combination with the pinion F, the chilled annular projection *h*, the same operating in the chilled iron recess *f* and on the bearing *g*. 4th. In combination with the pinion F, the chilled iron face *a*.

No. 14,382. Improvements on Railway Switches. (*Perfectionnements aux aiguillères des railroutes.*)

Charles H. Logan and Leopold Meyer, Newark, N. Y., U. S., 10th March, 1882; for 5 years.

Claim.—1st. The combination of a rail of the main track bent to form the outside rail of the side track and an opposed rail of the main track, pointed and movably held in contact with the bent rail, and a stationary point forming the inside rail of the side track and suitable guide rails. 2nd. The combination, in a double or three throw switch, of the two movable points D D_1, the two fixed points E E_1 and suitably fixed guide rails. 3rd. The spring, with one or more spring plates fastened at one end and loose at the other, to compensate for expansion, in combination with a movable rail point and switch lever. 4th. The connection between the switch lever and rail point moving spring, consisting in a push bar moving loosely in a socket. 5th. In combination with the spring and push bar, the stand J and lever K. 6th. The brace *t* secured to the movable rail and extended under the flanges of the adjacent rail at either side.

No. 14,383. Improvements in Refrigerators.

(*Perfectionnements aux chars frigorifiques.*)

James T. Gurney and Samuel Little, Boston, Mass., U, S., 10th March, 1882; for 5 years.

Claim.—1st. In a refrigerator waggon the refrigerator chamber