

stud or hook having a tubular shank or body *a* closed at one end and provided with shoulder *c*, discs *b b'* and eccentric neck *e*, all made from a single piece of wire.

**No. 10,836. Improvements on Fire-Escapes.**  
(*Perfectionnements aux sauveteurs d'incendie.*)

Charles Barlow, Cookshire, Que., 20th January, 1880; for 5 years.

*Claim.*—The combination of the cylinder *A* with the fluid or gas, the screw *a* with the steel rope *ax* and nut *B*, the case *C* with piston *J* and airtight head *F*, the valve *P* with stop rod *R*; also the scale *S* and packing box *K* with cap screw *H* and nut *L*.

**No. 10,837. Improvements on Sash Cord Guides.**  
(*Perfectionnements aux guide-cordons des jalousies.*)

Edward H. N. Clarkon, Baltimore, Md., 20th January, 1880; for 5 years.

*Claim.*—A casing provided with a bevelled lower end and a perforated flange at the upper end.

**No. 10,838. Improvements on Car Wheels.**  
(*Perfectionnements aux roues des wagons.*)

George W. Swett, Troy, N. Y., U. S., 20th January, 1880; for 15 years.

*Claim.*—1st. A cast metal car wheel having a single annular cavity *O* about its hub, and double plates united at *N* to form a single plate, the corrugations *A E B* on one side, and *A' S B'* on the other, the opposite diametrical curves being arranged in relation to each other; 2nd. The two plates inclosing the annular space and uniting at *N* to form a single plate, said plates being formed and arranged in relation to each other, in combination with the corrugations *H' C' C''*.

**No. 10,839. Art of Manufacturing Horse-shoes.**  
(*Art de fabriquer les fers à cheval.*)

John B. White, Buffalo, N. Y., (Assignee of George Bryden, Hartford, Ct.), U. S., 20th January, 1880; for 5 years.

*Claim.*—1st. The process of hot bending bar iron to horseshoe shape and re-heating the same, then swaging the same in dies which impart the final shape in rough, the surplus metal escaping in a marginal fin, then removing said fin by means of trimming dies, then immediately re-swaging in the same or similar swaging dies without re-heating and finally, trimming and cold punching the forging; 2nd. The process of hot bending bar iron to horseshoe shape, and attaching steel oak blanks thereto, to be welded on at the swaging operation, then re-heating the same, then swaging the same in dies which impart the final shape in rough, the surplus metal escaping in a marginal fin, then removing said fin by means of trimming dies, then immediately re-swaging in the same or similar swaging dies without re-heating, and finally trimming and cold punching the forging.

**No. 10,840. Improvements on Nut Locks.**  
(*Perfectionnements aux arrête-écrous.*)

Henry W. Stanton, Montreal, Que., 20th January, 1880; for 5 years.

*Claim.*—The washer plate *e* having those portions of the circular part which project past the outside of the nut bent or folded up against the sides of the nut.

**No. 10,841. Improvements in Harvesting Machines.**  
(*Perfectionnements aux moissonneuses.*)

William N. Whiteley, Springfield, Ohio, U. S., 20th January, 1880; for 15 years.

*Claim.*—1st. The combination with the main frame and master wheel, of the tongue yoke *U* and tongue *T*, said yoke being hinged to the main frame; 2nd. The combination of the main frame provided with the quadrant bracket *v*, the hinged yoke *u* and connections, the adjusting and locking hand lever *v3* and the adjustable link *v5*; 3rd. The tongue yoke *U* provided with a tongue socket, yoke arms, side seat wing, lugs and feet bars, all combined in a single piece of metal; 4th. The combination, with the main frame carrying the supporting bracket *h*, of the main shoe, said shoe and connections being coupled to said bracket and frame by a rolling hinge connection; 5th. The combination of the main frame provided with the slotted bracket *L*, adjusting lever *M* and link, with the tilting and retaining bar *J* and its connections, and the rolling hinge attachment of the main shoe to the main frame; 6th. The combination, with the main shoe having the rake mechanism mounted thereon and connected to the main frame by a rolling hinge joint at the heel of the cutting apparatus, of an adjusting and tilting hand lever mounted on the main frame and connected to said shoe, for the purpose of giving a tilting motion to the cutting apparatus and rakes, in order that they may be dropped down to pick up lodged and tangled grain; 7th. The combination of the driving and supporting master wheel mounted on the frame of machine, and having the oscillating differential gear arranged upon the outer side of machine, and the rake driving mechanism mounted on the inner side of master wheel, the cutting apparatus and rake gear connected to the main frame of machine, by a rolling hinged joint at the heel of the cutting apparatus, and at the front end by a tilting bar and adjustable hand lever; 8th. A single wheel harvesting machine having a hinged joint at the heel of the cutting apparatus, so arranged that while it holds the machine rigid between the cutting apparatus and master wheel (to retain said wheel in a vertical position) it shall yet, at the same time, permit the cutting apparatus and rake mechanism to be rolled, or rocked in the line of the length of the cutting apparatus, by means of a tilting hand lever; 9th. The differential oscillating gear mounted upon the master wheel axle or hub and connected to the main frame, in combination with the rolling blinged joint connecting apparatus to the main frame; 10th. The combination, with the main shoe *J* provided with the lugs *n* and sockets *Jr*, of the rake head standard provided with the spreading legs *N*; 11th. The combination of the tilting lever *M* provided with the extension arm *w3*, link and chain tightener *O*, with the rake head driving chain.

**No. 10,842. Improvements on Railway Tanks.**  
(*Perfectionnements aux puits des chemins de fer.*)

John D. Craig, Vincennes, Ind., U. S., 20th January, 1880; for 5 years.

*Claim.*—1st. The goose-neck pipe *B* passing up through the bottom of the tank, with the horizontally fitted valve and a valve stem passing through the side of pipe *B*; 2nd. The hollow perforated valve stem *D* passed through the side of the tank and through the outlet pipe *B*, in combination with the conical valve *E* and pipe *B* formed with a valve seat, whereby air is admitted at the upper end of the outlet pipe; 3rd. In combination with the valve stem *D*, the tube *C* extending through the side of the tank to the socket *c* and enclosing the valve stem; 4th. The pivoted collar *k*, in yoke *F* of lever *G*, in combination with lever *G* and valve stem *D*; 5th. In combination with tube *C* and stem *D*, the stuffing box *c*, gland *a* and screw cap *b*; 6th. The hinged link *m* and collar *n*, combined with the pipe *B* and its extension, whereby the extension is capable of both vertical and horizontal movement; 7th. In combination with the swinging extension *H*, the chain *z* attached to *H*, passing over pulley *p* and provided with weights *q*.

**No. 10,843. Water Wheel.**  
(*Roue hydraulique.*)

Charles H. Parker, Robinson, Que., 20th January, 1880; (Extension of Patent No. 4,366), for 5 years.

**No. 10,844. Process for Smelting and Reducing Iron Ores.**  
(*Procédé pour fondre et réduire les minerais de fer.*)

David Adams, Cleveland, Ohio, U. S., 20th January, 1880; for 5 years.

*Claim.*—1st. The process for smelting and reducing iron ores; 2nd. The use of a composition or paint composed of ground or pulverized ores, carbons and moist; 3rd. The use of crude petroleum or like oils; 4th. The grinding or pulverizing of iron ore to be mixed with substances, for the purpose of supplying carbon for reducing the ore to steel; 5th. The mixing of the ground ore intimately with the composition and a solution of lime to be moulded into slabs or blooms; 6th. The dipping of slabs or blooms into a solution of lime and carbonaceous matter.

**No. 10,845. Grain Door for Freight Cars.**  
(*Porte pour les wagons à grain.*)

Dennis F. Van Liew, Aurora, Ill., U. S., 20th January, 1880, (Extension of Patent No. 4,354), for 5 years.

**No. 10,846. Grain Door for Freight Cars.**  
(*Porte pour les wagons à grain.*)

Dennis F. Van Liew, Aurora, Ill., U. S., 21st January, 1880; (Extension of Patent No. 4,354), for 5 years.

**No. 10,847. Improvements on Grain Sowers.**  
(*Perfectionnements aux semoirs à grain.*)

James S. Bogle, Springfield, Ohio, U. S., 21st January, 1880; for 5 years.

*Claim.*—1st. The distributor casing provided with the flanges through which it is secured to the hopper, in combination with the retaining bracket or hanger; 2nd. The casing plate and its retaining bracket or hanger provided with bearings for the rock shaft, by which the feed gauges are adjusted; 3rd. The distributor casing provided with the round guards projecting laterally in front and in rear of the discharge outlet; 4th. The gears inter-transported, whereby the speed of the distributor shaft can be changed without the aid of extra gears, change of centres, or any adjustment of parts; 5th. The lifting lever in combination with the gears connecting it with the lifting roller, whereby a backward thrust of the lever is made to rock the lifting roller upward and forward; 6th. The lifting roller made to move past its pivotal centre adapting it to sustain the hoos raised out of the ground, without the aid of catch or pawl; 7th. The gear lever provided with the irregular slot or yoke, in combination with the irregular cam for actuating said lever; 8th. The irregular cam actuating the gear lever, made adjustable on its shaft for regulating the throw of said lever; 9th. The irregular cam actuating the gear lever connected with the lifting roller shaft, by the clutch sleeve or trunnion and through bolt adapting it to be adjusted relatively to the throw of said shaft; 10th. The lifting roller shaft, in combination with an adjustable actuating gear for regulating or adjusting the throw of the lifting lever; 11th. The tube top or funnel, in combination with the flat spring having eyes or perforations at both ends, for attaching it to horns or lugs on the distributor casing; 12th. The pivoted angle board forming the grass seed distributor, whereby, by a slight rocking movement, it is adapted to deposit the seed, either in front or in rear of the drill teeth; 13th. The pivoted angle board or grass seed distributor, in combination with the spring pawl or catch for holding said board.

**No. 10,848. Improvements on Plough Coulters.**  
(*Perfectionnements aux coutres des charrues.*)

Joseph Lane, Chicago, Ill., U. S., 21st January, 1880; for 5 years.

*Claim.*—1st. In combination with a concave rolling coulters *B*, or its equivalent, a scraper *E*; 2nd. A concave rolling coulters *B*, or its equivalent, having for its axis a spindle *D*, supported by the standard *A* and brace *C*, in combination with the scraper *E*; 3rd. A concave steel disc *a*, in combination with the spider *b* having a deep hub *d* to form a broad bearing on the spindle *D*.

**No. 10,849. Improvements on Oatmeal Machines.**  
(*Perfectionnements aux machines à gruau d'avoine.*)

John Quayle, (Assignee of George W. Severance), Ravenna, Ohio, U. S., 21st January, 1880; for 5 years.

*Claim.*—1st. The stationary wheel *s* having one or more rings *f* and hub with perpendicular notched flanges *s'*, in combination with the rotating