for the purposes described. 2nd. The process of manufacturing four pointed barb wires, straightening the barb ends and setting them back to lock their respective coils by a quick and sudden blow. 3rd. A four pointed barb for wire fencing, consisting of two wires spirally coiled with the coils approximately parallel throughout, but having a portion of the last coils at one or both ends slightly bent, so as to lock the two barb wires together.

No. 14,920. Improvements on Lanterns.

(*Perfectionnements aux lanternes.*)

Joseph B. Stetson and Albion D. Wilson, Lincoln, Me., U. S., 6th June, 1882; for 10 years.

Claim.—1st. In a lantern having a globe supporting frame, the vertically adjustable plate C carrying a spring E, adapted to hold or release the globe, as desired, in combination with the globe, the perforated plate on which it rests, the connecting rods F F serving to unite the top and bottom plates, and suitable guides adapted to give lateral support to the lower part of the globe. 2nd. The tubular frame D D^1 and the globe G, in combination with the plates C *p*, the connecting rods F and the guides H, whereby said globe is raised and lowered by a suitable lever and guided or steadied laterally in its movements. 3rd. The perforated bottom plate having wings P P and the annular top plate C united thereto by rods F F, forming a vertically sliding carriage for the globe, in combination with lateral guides H H, arranged to encircle the tubular frame, each guide wire having one end free to spring under the edge of the wing P. 4th. In a lantern having a vertically moving globe, the spring lever L with shoulder L^1 and thumb piece N, in combination with a loop or stop therefor on the frame.

No. 14,921. Improvement on Draft apparatus for Stoves etc. (*Perfectionnement des appareils de tirage pour les poêles, etc.*)

Fred Beaumont, jr., Little Rock, Ark., U. S., 7th June, 1882; for 5 years.

Claim.—The combination with the draft apparatus for stoves, etc., constructed of the band I, whereby the said apparatus is attached to a stove pipe or chimney.

No. 14,922. Improvement in Vehicle Springs. (*Perfectionnement des ressorts de voitures.*)

William W. Grier, Hulton, Penn., U. S., 7th June, 1882; for 5 years.

Claim.—1st. The combination of a vehicle axle and two lateral springs arranged parallel thereto, or nearly so, said springs being wide in the middle, narrow at the ends, and fastened to the axles by pivoted shackles at each end. 2nd. The combination, in a vehicle having lateral springs extending on both sides of and fastened to the axle, of an arched truss connected to the springs and sustaining the fifth wheel and yokes fastened to the arms of the truss, and extending around the circle plate of the fifth wheel. 3rd. The combination, of the axle with a lateral spring arranged on each side thereof and suspended thereto, and an arched truss for sustaining the body fastened to the springs, so as to permit the springs to vibrate below the axle.

No. 14,923. Improvements on Chills for Castings. (*Perfectionnements aux coquilles de fonderie.*)

William Hazelhurst, Portland, N.B., 7th June, 1882; for 5 years.

Claim.—The warm chill and the process of chilling metallic castings by circulating hot water or steam through the chill mould.

No. 14,924. Improvements on Acoustic Telephones. (*Perfectionnements aux téléphones acoustiques.*)

Lina Beecher, Medina, N.Y., U.S., 9th June, 1882: for 5 years.

Claim.—1st. In combination with the line wire of an acoustic telephone, the receiving and transmitting device, consisting of the front end A and back piece A^1, the former loose on the frame rods *a a a a* and the latter fastened thereto, the mica diaphragm *b*, rubber ring *c*, back piece or sounding board C, spiral spring B and its rubber seats *f f*. 2nd. In combination with the usual line wire and diaphragm *b* of an acoustic telephone, the coiled or spiral spring B acting automatically on rods *a a a a* in connection with the expansion or contraction of the line wire, and also as a sound expander. 3rd. In an acoustic telephone transmitting and receiving instrument, in combination with the usual line wire and the diaphragm *b* and spring B, the front or transmitting and receiving end A C *c* adapted to move automatically backward and forward on the rods *a a a a* (attached also to the back piece A) by the contraction or expansion of the line wire aided by spring B.

No. 14,925. Improvements on Wash Boilers.

(*Perfectionnements aux chaudières des buanderies.*)

Asher Holmes, Hamilton, Ont., 9th June, 1882; for 5 years.

Claim—The combination and arrangement of the several parts, namely: the steam generating chamber H, the water ducts B C formed by the partitions M, in connection with the exhaust pipe D.

No. 14,926. Improvements on Car Couplers.

(*Perfectionnements aux accouplages des chars.*)

Martin C. Dixon, Guilford, N. C., (Assignee of Rhodom M. Brooks, Jenkinsville, Ga.,) U.S., 9th June, 1882; for 15 years.

Claim.—1st. The combination, with a car coupler and the coupling pin O and link C^1, of the obliquely sliding dogs or pawls B, adapted to be automatically operated to drop the coupling pin O through the link C^1 during the operation of coupling. 2nd. In combination with the draw heads A, the dogs or pawls B provided with shoulders E F adapted to abut against bearings G H in the draw-heads. 3rd. The dogs or pawls B having a shoulder D at their forward upper ends, and provided with a recess M to hold the link C^1 in an elevated position. 4th. The combination, with the draw-heads A and the dogs or pawls B, of the pins I for holding the same in place. 5th. The combination, with the draw heads A, of the dogs or pawls B, provided wsth grooves N and adapted to engage a shoulder P, near the lower end of the coupling pin O and hold it in place.

No. 14,927. Improvement on Corsets.

(*Perfectionnements aux corsets.*)

Solomon Vermilyea and Hannah M. Vermilyea, Belleville, Ont., 9th June, 1882; for 5 years.

Claim.—The combination of the binder C, the lacing D and the corded busts F.

No. 14,928. Improvements on Cattle Ties.

(*Perfectionnements aux chevêtres des bestiaux.*)

Henry M. Robbins, Newington, Ct., U. S., 9th June, 1882; for 5 years.

Claim.—1st The rope or chain *c* provided with a suitable tying device attached to supports overhead and underneath the tying device and free to rise and fall. 2nd. The combination of the rope or chain *c* bearing a suitable tying device, and the cross bar *f*, with the take up pulley c^2 and the pulleys *d d*.

No. 14,929. Improvement in Reflectors.

(*Perfectionnement des réflecteurs.*)

William Wheeler, Concord, Mass., U. S., 9th June, 1882: for 5 years.

Claim.—1st. A reflector having a reflecting surface generated by the revolution about its principal axis, of a curve which is constantly variable throughout the said revolution. 2nd. A reflector having a reflecting surface generated by the revolution about two or more axes, successively, of a curve which is constantly variable throughout its revolution about one or more of the said axes.

No. 14,930. Improvements on Snow Ploughs.

(*Perfectionnements aux charrues à neige.*)

Andrew P. Farrar, Brainerd, Minn., U. S., 9th June, 1882; for 5 years.

Claim.—1st. An apron extending across and beyond the track and provided with knives for clearing the bed of the road, and both sides of the rails, the said apron being hinged to the frame work of the engine or car and adapted to be raised outward, to pass obstructions on the track. 2nd. An apron extending across and beyond the track and provided with devices for clearing the bed of the road, and the sides of the track, and further, with shoes for riding on the top of the rails, the said apron being hinged to a frame work of the engine or car, and adapted to be raised to pass obstructions on the track. 3th. In a pair of mould boards, combined with an apron hinged at the base of the mould boards, the said apron carrying devices for clearing the bed of the road and both sides of the rails, and adapted to be raised to pass obstructions on the track. 4th. Combined with the frame work of an engine or car, an apron provided between the rails with a clearing edge and a series of knives whose edges, with that of the apron, are concave, to conform to the convexity of the road bed. 5th. Combined with a frame work of an engine or a car, a pair of mould boards and an apron, having between the rails a concave clearing edge, and knives whose edges are parallel with the edge of the apron. 6th. An apron extending across and beyond the track, and provided with devices for clearing both sides of the rail, and having between the rails a concave clearing edge, and a series of knives whose edges are parallel with the edges of the apron. 7th. A frame work of an engine or a car, provided with a series of hinge sections combined with an apron having corresponding hinge sections, and a hinging rod uniting the respective sections, the outer end of the hinge sections of the apron projecting beyond the outer edge of the apron, and forming cutting knives to act on ice in the road bed. 8th. A frame work of an engine or a car, provided with a series of hinge sections, an apron having corresponding hinge sections, and a hinging rod uniting the hinge-sections of the frame and apron respectively combined with spiral springs surrounding said rod, one spring being placed thereon in a space left between a pair of the hinge sections of the frame and apron respectively at each side of the centre line of the engine or car. 9th. In a track clearer, a hinged apron mounted with clearing devices, and capable of lateral movement on its hinge, combined with shoes riding on the top of the rails, and flanges or guides attached so as to run inside of the rails, for directing the apron laterally when curves are encountered. 10th. Combined with a supporting frame, a hinged apron provided with a backing extending across the road bed, and having a square shoulder which, when the apron is in its depressed or working position, bears at all points in the length of the apron against the front timber of the supporting frame and effects the bracing of the apron and its mounting, when pushed forward against the obstructing matter. 11th. Combined with a hinged apron extending across and beyond the track, a system of rods D D^3 and compound levers D^{11} D^4 communicating with the rear of the engine or car, and an automatic locking device, constituting means whereby the apron may be raised or lowered, locked or released. 12th. In a track clearer, the combination of a pair of mould boards, a vertically and laterally movable apron extending across and beyond the track, and provided with devices for clearing the bed of the road and the sides of the rails, and means for elevating and depressing the apron. 13th. In a track clearer, the following elements in combination, a pair of mould boards, a vertically and laterally movable apron, extending across and beyond the track, and having devices for clearing the bed of the road and both sides of the rails, and shoes for riding on the top of the rails, springs for maintaining the normal position of the apron in the centre line of the engine or car, and means for elevating and depressing the apron.