with means, substantially as described, for raising and lowering said bars, and consequently the scraper, all combined, constructed and adapted to operate substantially as and for the purposes set forth. 4th. In a road-grader of the class recited, the scraper provided with mechanism constructed and operating substantially as described, whereby said scraper may be moved independently either in a longitudinal or a vertical direction, or in both directions at the same time, if desired, while the machine is in motion or otherwise, as and for the purpose set forth. 5th. In a road-grader, the combination, with the diagonal scraper suspended from the frame-work of the machine, of the resistance wheel X, when placed in front of the scraper, with means for depressing and elevating the same, substantially as and for the purpose described. 6th. In combination with the diagonal scraper secured to the frame-work upon wheels, the resistance or penetrating wheel X, journalled in a frame that is attached to the short arm of a hand-lever, which lever is pivoted on the side of the axle or equivalent support, said short arm being formed and placed with relation to the axle as shown, whereby it stops against the latter just after it has passed a vertical line through the pivot on which the said lever turns, all constructed and adapted to operate, substantially as and for the purpose specified. 7th. In combination with the diagonally-suspended scraper and the wheels W, W1, the attachable and detachable flange-pieces K, secured to the rim of wheel W, as and for the purpose specified. 8th. The scraper, the vertical bar connected thereto, the toothed rack, the independent toothed segment, with an arm or handle extending therefrom, the lever H, pivoted concentrically with said segment, together with the slots or stops *q* and catch *c c*, all combined, constructed and adapted to operate, substantially as and for the purpose stated. 9th. In combination with the platform P, the brace strips U, provided with the perforations *j*, as and for the purpose specified.

No. 22,559. Electric Signalling Apparatus for Railway Trains. (*Appareil Electrique à Signaux pour Convois de Chemins de Fer.*)

John W. Currier, North Troy, Vt., U.S., 1st October, 1885 ; 5 years.

Claim—1st. The combination, substantially as set forth, of a hollow shell of non-conducting material, a metallic contact ring *b*, provided with a flange and surrounding the same, a resilient spring finger intended to be normally in electric contact with said ring, an auxiliary spring *k* in contact with the flange *c*, a yielding contact plate normally held against the inner surface of the metal contact ring by the elasticity of a spring, and two electric conductors united respectively to the external contact finger and to the internal yielding contact plate. 2nd. The bracket G with its split or divided socket *m* and spring plate *n n1*, in combination with and for receiving the cross-bar H secured to one end of the coupling connection, whereby the latter may be instantly detached, as and for the purpose set forth. 3rd. The auxiliary spring *p*, in combination with the bracket G, spring plate *n n1* and split or bifurcated socket *m*, for admitting of the instantaneous location and removal of the cross-bar H of the coupling connection, substantially as described.

No. 22,560. Amalgamator.

(*Amalgamateur.*)

William Moller, Yonkers, N.Y., U.S., 1st October, 1885 ; 5 years.

Claim—1st. The combination of the pan A, the cone forming the inner portion of the bottom of said pan, the gutter formed outside of said cone, the spider or radial arms having agitators extending down close to the surface of said cone, and the ring carried by said arms having a series of shoes projecting into the gutter, and the deflecting plate or chute for delivering the pulp from said gutter upon the cone-shaped portion of the bottom of the pan, substantially as described. 2nd. The combination of the pan A, the cone forming the inner portion of the bottom of said pan, the circular ledge formed on the outer edge of the cone, the gutter formed outside of said ledge, the ring which carries a series of shoes projecting into the gutter, the channel *m* formed between the ring and the circular ledge, and the spider or radial arms carried by said ring, having agitators extending down close to the surface of the cone, and the deflecting plate or chute, substantially as described. 3rd. The combination of the pan having a cone forming the inner portion of the bottom of said pan, the plate *e* fitted beneath said cone and forming a heating chamber, and pipes for admitting a heating medium into the latter, and the gutter formed outside of said cone with pulp-agitating devices operating upon the gutter and cone, substantially as described.

No. 22,561. Horse Collar. (*Collier de Cheval.*)

Thomas G. Gillespie, Campbellford, and Matthew S. Cassan, Seymour, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. In a horse collar, divided as described, and having the ends of the division protected by the sockets B and C, the pins E connected to the end plate of the socket C and having necks *e* formed on them, in combination with the holes *a* and notches *b* formed in the end plate of the socket B, substantially as and for the purpose specified. 2nd. In a horse collar, divided as described, and having the ends of the division protected by the sockets B and C, the pins E connected to the end plate of the socket C and having necks *e* formed on them, the holes *d* made through the said end plate, in combination with the holes *a* and notches *b* formed in the end plate of the socket B, and the pin D extending from the said end plate, substantially as and for the purpose specified.

No. 22,562. Toboggan. (*Traine Sauvage.*)

Francis W. Hore, Jr., Hamilton, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. In a toboggan, the screw eyes D, in combination with the cleats B for holding the side rails E, as set forth. 2nd. In a toboggan, the hooks and eyes J, T, in combination with the batten H and an eye D for holding the front curve depressed, as set forth. 3rd. In a toboggan, the combination of the screw eye I, jointed hook J, and an eye D for retaining the front curve flexibly, as set forth.

No. 22,563. Weather Protector for Wheat, Barley, Hay, etc. (*Abri pour les Grains, le Foin, etc.*)

John Black, Fergus, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. A weather protector, composed of a series of thin slats arranged to overlap each other, and braced together by the cross-slats *b*, in combination with a correspondingly-formed section, the two being flexibly connected together, substantially as and for the purpose specified. 2nd. A weather protector formed of two sides, composed of a series of slats *a* overlapping each other and braced together by the cross slats *b*, a flexible catch *c* arranged to connect the two sides thus formed together, in combination with the pins *d*, arranged to pass through the loop *f*, and the cords *h*, the whole being arranged and operating substantially as and for the purpose specified.

No. 22,564. Apparatus for Lithographic Printing and other Machines. (*Appareil pour Machines à Impressions Lithographiques et autres.*)

William Powrie, London, Eng., 1st October, 1885 ; 5 years.

Claim.—1st. The combination and use of flannel or textile fabric (or threads) B, with the trough A, substantially as hereinbefore described and shown on the accompanying drawings. 2nd. The combination and use (or not), with the flannel or textile fabric (or threads) B, and with the damping table or slab, of feeding roller C, substantially as hereinbefore described and shown on the accompanying drawing. 3rd. The combination, with the flannel or textile fabric (or threads) B, of adjustable or pinching bar D, substantially as hereinbefore described and shown on the accompanying drawings. 4th. The combination, with the flannel or textile fabric B, of swivel bar or frame F, substantially as hereinbefore described and shown on the accompanying drawings.

No. 22,565. Sleigh. (*Traîneau.*)

Anthon O. Kruger and Charles Trim, both of Houghton, Mich., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. In a sleigh, the combination, with the sleigh-runners and sleigh beams, of the standards provided with the projecting journals, the staple-straps and rockers, substantially as specified. 2nd. The combination, with the sleigh-runners provided with the hook-strap near their forward ends, of the tongue having its rear cross-bar provided with eye-bands and the connecting chains, substantially as specified.

No. 22,566. Method of Straightening Needles, Wire, etc. (*Art de Redresser les Aiguilles, la Broche, etc.*)

George M. Eames, Bridgeport, Conn., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The method herein described of straightening needles, wire and the like, the same consisting in operating the straightening device by causing the eccentricities of the object to be straightened, to make and break an electrical circuit, substantially as set forth. 2nd. The process of straightening needles, wire, etc., the same consisting in controlling the operation of the straightening devices by the direct action of the eccentricities of the object to be straightened against an electrical circuit breaker, substantially as set forth.

No. 22,567. Hedge Trimmer.

(*Appareil à Tailler les Haies.*)

William Williams, Jr., Sugartown, Pa., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The centrally pivoted cutter-bar C, in combination with the supporting-frame attached to the body of the operator and mechanism, substantially as described, whereby it is adapted to be elevated or depressed and adjusted to cut horizontally or vertically, as set forth. 2nd. In a hedge-trimmer, a centrally pivoted cutter-bar in combination with the breast plate D, and intermediate cutter-bar supporting mechanism, substantially as shown and described

No. 22,568. Heating Furnace. (*Calorifère.*)

Thomas R. Renwick, Grand Rapids, Mich., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The combination, with a fire-box, a chimney, a flue, inclining downward from said fire-box to said chimney, and a boiler, of substantially the character shown and described, inclining downward from the fire-box to the chimney, of an inlet pipe or pipes leading to said boiler at its lower end, an outlet pipe or pipes leading from said boiler at its upper end, and a radiating coil or coils connecting said pipes, whereby the water entering the boiler at the lower end passes upward toward the upper end of the boiler, while the flame and heated air pass downward in the opposite direction in contact with the boiler, the current of water being in one direction and the current of heated air in the opposite direction, substantially as described. 2nd. The flat, thin boiler, located above and forming one side of the flue N, and inclining downward from the fire-box F to the chimney E, in combination with the fire box F, pipes B and C and coil D, all constructed as described.

No. 22,569. Stove Pipe Fastener.

(*Accouplement de Tuyaux de Poêle.*)

Louis Paré and Henry Reichenbach, both of Detroit, Mich., U.S., 1st October, 1885 ; 5 years.