

Claim.—1st. In a screw-threading machine, a lower die let into frame, and an upper die, operated by a lever, the meeting surface of tees having a corresponding section of a spiral cut on each, and made to press in turn on successive portions of the circumference of the pipe to form a continuous spiral, all substantially as set forth. 2nd. The combination with the moulding dies or blocks of a tapering block mounted on a screwed shaft, which is moved forward till it enters into and holds the pipe, all substantially as set forth. 3rd. The combination, with the screwed shaft, carrying pipe of mechanism, consisting of arm, slotted arc, and pawl and ratchet, whereby the backward movement of the lever is caused to impart rotary motion to the shaft H, this transmitting such motion through gears to screwed shaft, and rotating pipe through a desired arc.

No. 17,630. Vacuum Pans for Evaporating Liquors. (*Appareil à évaporer les liqueurs au vide.*)

U. A. Hoeveler, Pittsburg, Pa., U.S., 11th September, 1883; 5 years.

Claim.—1st. The combination of the pan A, exhaust C, and inlet pipe F or F', having the rose or shower head G or G', substantially as described. 2nd. In combination with the vacuum pan A, the inlet pipe F or F', rose or shower-head G or G', and the imperforate tray H, located beneath said shower-head, substantially as described. 3rd. In combination with the vacuum-pan A, the inlet pipe F, rose or shower-head G, and the tray H, perforated and rimmed at its periphery, substantially as described.

No. 17,631. Heel-paring Machine for Boots and Shoes. (*Machine à parer les talons des Chaussures.*)

F. Cutlan, Leicester, Eng., 11th September, 1883; 5 years.

Claim.—1st. The employment of the clip or hooked bar A, substantially as and for the purposes described. 2nd. The fixing of the knife to a loose piece hinged or jointed to the knife-stock, substantially as described and shown. 3rd. The combination of the sliding bar U, friction roller V, cam V, and revolving shaft W, substantially as and for the purpose set forth.

No. 17,632. Cooking Ranges. (*Poêle à charbon pour cuisine.*)

U. H. Scott, Tredonia, N.Y., U.S., 11th September, 1883; 5 years.

Claim.—1st. A cooking-range having a flue C C₁, C₂, provided with the vertical dividing-plates D D₁, in combination with the dividing damper J, arranged below the oven, and its operating mechanism, substantially as specified. 2nd. In a cooking-range the combination of the oven B and the flues C C₁, C₂, C₃, with the dampers E, H, J, and their operating mechanism, substantially as specified. 3rd. The damper E, and its arms α α' , connecting-rod β , rack β' , connecting-rod γ , arm γ' and damper H, in combination with the pinion H₁, its supporting vertical shaft and arm α , connecting-rod α' , arm β and dividing-damper J, whereby all the dampers may be moved or operated simultaneously by the handle ϵ , for the purposes described. 4th. A cooking range, in which the flue C C₁, C₂, C₃ surrounds and separates the oven entirely from the fire-box, and is provided with the plates D D₁, in combination with a series of simultaneously-acting dampers E, H, J, and their operating mechanism, substantially as described. 5th. A cooking-range, in which the flue C C₁, C₂, C₃ surrounds and separates the oven from the fire-box, in combination with the dividing-plates D D₁, and a suitable means for changing the direction of the products of combustion for the purposes described. 6th. A cooking-range, having a flue C C₁, C₂, C₃, in combination with the dampers E and J, and their operating mechanism, substantially as specified. 7th. The flue C C₁, C₂, C₃, in combination with the damper J, and a suitable means, substantially as specified, for changing the direction of the heat around the oven. 8th. In a cooking-range, the flue C C₁, C₂, C₃, which surrounds and separates the oven from the fire-box, in combination with a series of connected dampers, whereby the products of combustion may be directed around the oven in different ways, for the purposes substantially as shown and described.

No. 17,633. Railway Ditching Machine. (*Machine à faire des fossés aux chemins de fer.*)

D. E. Grove, Dallas, Texas, U.S., 11th September, 1883; 5 years.

Claim.—1st. In a railway ditching machine, the plow F, made angular and with inclined cutting edges, whereby a ditch will be cut or a bank sloped, as described. 2nd. In a railway ditching machine, the combination with the car A, and the angular carrier-frame C, the derricks X, V, and their tackles S, V, T, and α , ϵ , δ , whereby the carrier and its plow can be adjusted laterally and vertically, as set forth. 3rd. In a Railway Ditching Machine, the combination with the car A, the derricks X, V, and the tackle of the windlass and the steam-engine, whereby the plow and carrier can be quickly raised and lowered as described. 4th. In a Railway Ditching Machine, the combination with the car A, the plows and the carrier-frames of the push-bars B, whereby the plows are pushed forward against the resistance of the earth, as described. 5th. In a Railway Ditching machine, the combination with the car A, and the side-carriers of the transverse carriers and their supporting tackle and derricks, whereby the inclination and position of the said transverse carriers can be regulated, as described. 6th. In a Railway Ditching Machine, the combination with the angular plow, having inclined cutting edges of the angular frame provided with the endless belts H, J, K, and spring side-boards, substantially as shown and described. 7th. In a Railway Ditching Machine, the combination with the car, of the angular frame, the angular plow, the carrier-belts H, J, and their rollers, and the angle-belt K, and its guide-rollers, whereby the dirt will be raised and carried back, as set forth. 8th. In a Railway Ditching Machine, the combination with the angular carrying-frame, and the inclined endless belts H, J, of the narrow belt K, made thick and with bevelled edges, and the guide-pulleys L, whereby dirt is kept from entering the space between the adjacent edges of the said

inclined belts, as set forth. 9th. In a Railway Ditching Machine, the angular frame carrying the plow, and provided with the bails, in combination with the bar ϵ , hinged at its outer end to the frame, and connected at its inner end to the car α , and the derrick mounted on the car, and provided with the tackle, substantially as described. 10th. In a Railway Ditching Machine, the combination with the car A, and the carrier-frame of the hinged bar ϵ , and the swivelled hand-screw f, whereby the lateral inclination of the plow and carrier can be regulated, as set forth. 11th. In a Railway Ditching Machine, the combination with the car A, the bar ϵ , and the carrier-frame, of the vertically sliding block g, and the swivelled screws j, whereby the lateral inclination of the carrier and plow can be adjusted from the car, as set forth. 12th. In a Railway Ditching Machine the combination with the car, the bar ϵ hinged at its forward end to the frame C, and the carrier-frame of the rack-bar α , and the gear-wheel p, having shaft and hand-wheel, whereby the carrier-frame can be adjusted to bring the plow nearer to the car or send it therefrom, as set forth. 13th. In a Railway Ditching Machine, the combination with the car carrying the side-carriers and their plows, and the transverse carriers of a train of cars X, provided with an endless conveyer, whereby the conveyer lying over, each car can be loaded from the said side, and transverse carriers, as set forth. 14th. In a Railway Ditching Machine, the combination, with the angular carrier-frame, the endless belts H, J, K, and their rollers, of the bevelled gear-wheels M, N, the connecting-rod O, and the steam-engine Q, whereby the carrier-belts are made to move together substantially as set forth. 15th. In a Railway Ditching Machine, the conveyer, consisting of the slats p, having their side edges correspondingly bevelled and overlapped, the coupling links z and 1, 2, and the wheels 5, 7, as set forth. 16th. In a Railway Ditching Machine, the combination with the cars x, having posts 11, cross-bars 10 and track timbers 9-8-9 of the endless conveyer y z 1-2, having hangers 4-6-4 and wheels 5-7-5, whereby the dirt received at the forward end of the conveyer will be carried to the rear of the trains, as set forth. 17th. In a railway ditching machine, the combination with the hangers that carry the guide wheels of the conveyer, of the rag-wheels 16, the crank-shaft 15 and the steam engine, whereby the conveyer can be operated independently of the other parts of the mechanism, as set forth.

No. 17,634. Electro-Coating Process.

(*Manière d'enduire par les procédés électriques.*)

U. H. Walenn, Islington, Eng., 11th September, 1883; 5 years.

Claim.—1st. The electro-coppering solution set forth in the first part of this invention, containing cyanide of potassium and neutral tartrate of ammonium in about the proportions named charged by electrolysis and completed by the addition of cupric ammonide, as set forth and for the purpose named. 2nd. Using the solutions mentioned in the first part of this invention, at a boiling heat or near thereto, as set forth and for the purposes named. 3rd. Thin sheet iron plates coated with copper by the solution described and as set forth in the first part of this invention. 4th. The apparatus, described in the second part of this invention, for preventing the too great evaporation of the solution, including the arrangement for conducting the electric current into the tank and insulating the tank also including the counterbalanced cover worm tube and upper vessel, for the purposes named. 5th. Working the solutions mentioned in the third part of this invention, in a closed vessel under a known pressure, as set forth. 6th. The use of the closed vessel for the purposes (other than increase of pressure), set forth in the third part of this invention. 7th. The addition of cupric ammonide to the solutions named in the fourth part of this invention, in the manner stated and for the purpose named.

No. 17,635. Automatic Safety Car Signals. (*Signaux automatiques à la sûreté des chemins de fer.*)

U. H. Rushforth, Camden, N. Y., U. S., 11th September, 1883; 5 years.

Claim.—1st. The method of automatically displaying a danger signal from the end of a train which consists in connecting a danger signal with a system of pneumatic brakes adapted to be operated from the engine or by the breaking of a hose-brake-coupling, whereby upon the application of the brakes from the engine, or the stoppage of the train by reason of the breaking of a hose coupling, in combination, is automatically exposed. 2nd. In a railroad train in combination, a system of air or vacuum brake tubes, a fixed danger signal applied to the end of a car, a device which when the train is in motion obscures the light of said signal and means for connecting the obscuring device with the system of air or vacuum brake tubes whereby upon the application of the brakes from the engine or upon the breaking of a coupling, the air is enabled to operate the signal. 3rd. In a railroad train, the combination of a system of air or vacuum brake tubes, a fixed signal lantern applied to the end of a car, an obscuring plate or kindred obscuring device connected with a piston playing in a pump cylinder and adapted when the train is in motion to obscure the light, a pump cylinder also applied to the car and connecting tubes for conveying the pressure from the air or vacuum brake tubes into the cylinder for operation of the piston and signal. 4th. The combination of a suitable operating mechanism connected with a system of pneumatic brakes, a slide connected thereto and adapted to be raised and lowered thereby, signal arms pivoted to said slide and adapted to be operated thereby so as to be either extended or closed, substantially as set forth. 5th. The combination of a suitable operating mechanism, a slide connected thereto, adapted to be raised and lowered thereby, and provided with suitable flanges or stops, pivoted signal arms and guides for closing said arms when the slide is lowered, substantially as set forth.

No. 17,636. Ice Creepers. (*Crampons à glace.*)

F. M. West, Mohawk, N.Y., U.S., 11th September, 1883; 5 years.

Claim.—1st. The spiked plate B having a screw threaded stem b and spikes b₁, in combination with the socket A sunk in the heel and