

diaphragm, composed of a metallic plate, and a non-metallic plate placed together. 6th. A cubical case A having at one side an aperture, in combination with the curved speaking tube B, the piece E, chambers G, diaphragm H and signalling apparatus. 7th. A telephone consisting of the combination of a cubical case, a diaphragm located close to, and parallel with one of the sides of the case, and a speaking tube in open relation with, and extending from a position nearly central with the diaphragm to one of the other sides of the cubical case.

No. 15,250. Improvements on Fire Escapes.

(*Perfectionnements aux sautoirs d'incendie.*)

David S. Thomas, North Platte, Neb., U. S., 7th August, 1882; for 5 years.

Claim.—1st. In a jointed ladder, a supporting chain or rope, and a reel, said ladder and rope wrapped around the reel, in combination with ratchet wheels for the purpose of raising the ladder upwards. 2nd. The combination of a reel, a chain and jointed ladder wound thereon, a ratchet wheel for the raising of the ladder upward, a spiral formed upon the end of the reel and stud on the side of the slotted supporting frame, whereby the reel is drawn forward toward the ratchet wheel as the ladder and chain are unwound. 3rd. The combination of the reel, the ladder and its supporting chain wound thereon, the ratchet wheel for raising the ladder upwards and drawing the chain from the reel, and a guiding wheel around which the chain passes. 4th. The supporting frame D provided with a slot E in each of its front legs, whereby the frame may be raised and lowered at its front end for the purpose of changing the inclination of the ladder. 5th. The combination, with the jointed ladder provided with a pulley at its upper end, of an elevator having a roller or slide attached to its upper end, and an elevating rope and a drum, whereby the elevator can be raised upon the ladder. 6th. In combination with the supporting frame D provided with slot E, a shaft S provided with hand wheels h and rope S' wrapped thereon, and attached at each end to the supporting frame. 7th. The combination, with a jointed ladder wrapped upon a reel and tapered throughout its length of the ratchet wheels CC turning on the screw-threaded sleeves c. 8th. In combination with the elevator R, a shaft R' having crank c and provided with reels R and rope R' wound thereon, and attached at the other end to the slide f.

No. 15,251. Improvements on Heel Burnishers for Boots and Shoes.

(*Perfectionnements aux ustiles pour les talons des chaussures.*)

Zothique Beaudry, St. Mase, Que., 7th August, 1882; for 5 years.

Claim.—1st. A heel burnisher for boots and shoes, the working face of which is constructed of the convex portion b and the two wings or extensions c c forming opposite continuations of the convex portion. 2nd. The combination, with a heel burnisher for boots and shoes, of a suitable block or support provided with two edges l and m capable of adjustment in relation to the burnisher. 3rd. The combination, with a boot and shoe burnishing tool, of a vertically arranged brace rod connected with the burnishing tool, the end of said brace-rod being provided with a rest arranged to bear against the arm of the operator, whereby force from the arm can be applied to the burnisher. 4th. The combination, with a boot and shoe burnishing tool, of a vertically arranged brace-rod connected with the burnishing tool and extending in an upward and outward direction from the same, the upper end of said brace-rod being provided with a rest arranged to bear against the arm of the operator above the elbow, whereby force from the arm can be applied to the burnisher. 5th. The combination, with a burnisher for boots and shoes, of a brace-rod having at one end a swivelled connection with the burnisher, and at the other end provided with a swivelled rest adapted to bear against the arm. 6th. In a hand burnisher for boots and shoes, a stock j provided with the edge or edges l m located at one side of a suitable burnishing face for the heels of boots and shoes, in combination with the rod k, socket n, thumb piece m and spiral spring r. 7th. In a hand burnisher for boots and shoes, the combination, with the burnisher, of a brace-rod Q, which is swivelled thereto, and to an arm rest P, and at each side is provided with spiral springs, or other suitable elastic connections.

No. 15,252. Improvements on Grinding Mills.

(*Perfectionnements aux machines à remouler.*)

Frank Wilson, John L. Wilson and James E. Wilson, Easton, Penn., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The combination, with the shell or casing having the projecting teeth on its interior, of the rotary shaft carrying the cutters which pass between said teeth. 2nd. The combination, with the rotary grinding mechanism, of an open or perforated disk. 3rd. The combination, with the shell or casing, having a web plate provided with a row of projecting teeth, set into its interior walls, of the rotary shaft carrying the cutters moving between said teeth, and a perforated disk for the final passage of the ground material. 4th. The combination, with the shell or casing, having the flange and rim at its end, and the rotary grinding shaft, of the cross-piece or plate having a central hub, and arranged on the outside of, and adapted to hold in position the cap piece. 5th. The described grinding machine.

No. 15,253. Improvements on car axle rolls.

(*Perfectionnements aux cylindres pour les essieux des chars.*)

Elijah Hallett and Richard Thompson, Pittsburg, Penn., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The housings B, adjusting screws E E and set of flangeless roughing rolls C, in combination with the friction roll F. 2nd. The combination of the housings B B, adjusting screws E E, set of finishing rolls C' C' F, having adjustable flanges N N. 3rd. The roughing rolls C C F with their housings and mechanism, in combination with the flanged finishing rolls C' C' F and their housings and mechanism.

No. 15,254. Improvements on Electric Railway Signals.

(*Perfectionnements aux signaux électriques des chemins de fer.*)

Charles D. Tisdale and John D. Gould, Boston, Mass., U. S., 7th August, 1882; for 5 years.

Claim.—1st. The signal and main electro-magnet and its armature to control it, and a normally closed main circuit, the armature of the said magnet being arranged to be retained in either position up to the poles of the said magnet, or retracted therefrom while the said magnet is magnetized, in combination with a circuit breaker in the said main circuit, whereby the main magnet may be demagnetized, and its armature retracted, and an auxiliary magnet and circuit therefor, to govern the return movement of the armature from its retracted position up to the poles of the main magnet. 2nd. The signal and its controlling main electro-magnet and armature, arranged as described to remain in either position assumed, while acted upon by the said magnet alone, and a normally closed main circuit for said magnet, and an auxiliary electro-magnet, in a normally open branch of the said main circuit adapted, when magnetized, to attract the said armature up to the poles of the main magnet, combined with a momentarily operated circuit breaker and closer, in the said main branch circuits, respectively adapted to be operated by a train while passing them, and located at proper points, the former to break the main circuit and permit the retraction of the armature, and the latter to close the auxiliary or branch circuit, and cause the movement of the armature to the poles of its main magnet. 3rd. The signal and main magnet, and its armature and retractor, to control it, the said magnet being in a normally closed circuit, provided with a breaker adapted to remain closed, except while positively open by a train in passing, combined with an auxiliary magnet and circuit therefor, provided with a circuit controller and adapted for momentary action, the said auxiliary magnet being adapted to govern the movement of the armature from its retracted position up to the poles of the main magnet. 4th. The signal and main magnet, its armature and normally closed circuit to control it, combined with the auxiliary magnet, in a normally open branch of the main circuit, and an auxiliary battery in the said branch, the effect of which is thus confined wholly to the said auxiliary magnet, and the circuit controllers in the said main branch circuits. 5th. The signal and its controlling main and auxiliary magnets and circuits therefor, combined with an electric switch to open the said main circuit, it being adapted in its return movement, by which it closes the said circuit, to also operate the auxiliary circuit and magnet. 6th. The circuit breaker consisting of a lever and anvil therefor, and a spring by which the said lever is normally held in contact with its anvil, the said circuit closer being mounted upon a sleeper, or foundation, chambered to permit an independent downward movement of the rail, and the end of the lever extended under the rail and operated thereby.

No. 15,255. Improvements on Brick Machines.

(*Perfectionnements aux machines à brique.*)

Daniel Davis, London, (Thp.) Ont., 7th August, 1882; (extension of patent No. 1591.)

No. 15,256. Improvement in Lubricating Oil.

(*Perfectionnement dans l'huile lubrifiante.*)

Henry Fink and Catharine Fink, Baltimore, Md., U. S., 7th August, 1882; (extension of patent No. 9071.)

No. 15,257. Improvements on Nut Locks.

(*Perfectionnements aux arrête-écrous.*)

Joseph H. Burrows, Burnet E. Light, John M. Lamb, Boise City, Idaho, and William C. Anderson, San Francisco, Cal., U. S., 7th August, 1882; for 5 years.

Claim.—1st. A nut made as described, with one or more recesses in its face, which recesses are provided on their bottom with a transverse ridge or projection. 2nd. The combination, with the screw bolt F, of the nut A provided with one or more recesses B, provided on the bottom with a projection C, and of the keys E provided in the bottom edge with two diverging recesses G forming a nose H between them. 3rd. In a nut lock, the wedge E having one end sharpened, and the other end bevelled inwardly from the top to the bottom, and provided with the diverging recesses G forming a nose H between them.

No. 15,258. Improvements in Fire Guards and Escapes.

(*Perfectionnements aux sautoirs-protecteurs d'incendie.*)

John O'Neil, Pakenham, Ont., 7th August, 1882; for 5 years.

Claim.—1st. In combination with the sustaining-frame provided with notches, or shaft bearings, the adjustable screws having their edges provided with crank shafts, whereby the screens may be wound into rolls for transportation on the frame. 2nd. In combination with the base frame and the girder C, the ladders d secured at their upper ends to the girder, and attached at their lower ends to the frame by means of the hinged weighted connections. 3rd. The base-frame, mast sections b and screen G, in combination with the ropes h and the winding shaft H provided with an operating crank. 4th. A fire guard tubular extensible mast provided with appliances to sustain a curtain, and with openings at the top and bottom to permit the passage of water through them. 5th. The combination, with the masts and girders, of the intermediate braces m and spring n. 6th. In combination with the truck, its masts and girders, pulleys mounted thereon, and provided with endless ropes or chains for bearing appliances for elevating and supporting the supplemental curtain. 7th. The combination of the main wheeled truck, the three extensible masts mounted thereon, with appliances for extending the masts, and the three flexible curtains and appliances for elevating said curtains independently of each other. 8th. In combination with the base frame, the extensible masts and the screens, the ropes or chains for elevating the masts and screens, winding shaft H, wind-