

**No. 2080. JAMES H. BLESSING & FREDERICK TOWNSEND, Albany, N. Y., U. S., 20th Feby., 1873, for 5 years: "A Steam Trap." (Boite à retour de vapeur.)**

Used in connection with apparatuses for warming buildings with steam and which return back, automatically, the condensed water into the boiler.

*Claim.*—1st. A steam trap which is sustained upon one arm of a lever B, and counterbalanced by a weight H, on the opposite arm of such lever in combination with pipes G, G<sup>1</sup>, and J, and an automatic tripping device for the valve  $\rho^2$ ; 2nd. The trap cylinder C, suspended upon knife-edges  $\alpha$ ,  $\alpha$ , on lever B, and guided below by a pivoted rod T; 3rd. In the gravitating trap-cylinder C, valve-box D, and a valve-tripping device which is connected by a rod  $h$ , to a fixed arm  $d$ , whereby the rising and descending movements of the trap will actuate the said valve; 4th. Combination with the trap described the distributing plate V, inside of the cylinder C; 5th. In a gravitating receiver C, of a steam-trap to return the water to the boiler.

**No. 2081. THOMAS H. WHITE, & EDGAR KNIGHT, Cleveland, Ohio, U. S., 20th Feby., 1873, for 5 years: "A Lamp." (Une lampe.)**

*Claim.*—1st. The chamber D, oil-tube E, and skirt H, in combination with the fount C, and a burner; 2nd. Supporting the burner by securing the same to the oil-tube E, and depending the skirt H, from said burner down into the chamber over the tube E; 3rd. A lamp having a recess or chamber D, in combination with the depending skirt H.

**No. 2082. ANDREW HUNTER, & EGBERT H. OSBORNE, Quincy, Ill., U. S., 20th February, 1873, (Extension of Patent 1941 for a second period of 5 years): "A Grain Cleaner." (Une machine à nettoyer les grains.)**

**No. 2083. JOHN EWING, JR., Coaticook, Que., 20th February, 1873, for 5 years: "A Washing and Wringing Machine." (Machine à laver et tordre le linge.)**

*Claim.*—1st. The combination with a frame A, of corrugated rollers B, and roller F, having movable bearings and roller H, whereby the roller F, can be brought to engagement with the rollers B, and H, independently as set forth, for the purpose of washing and wringing; 2nd. The arrangement of the springs E, for compressing the rollers and bars D, receiving the journals of the rollers B, adjustably as set forth; 3rd. The frame G, receiving the journals of the roller F, and having eccentric ends and cam-notches J, to engage with the bars D, and protecting journals or pins for bringing the rollers together; 4th. The flap-table I, hinged or journalled to the frame A, and bearing on the frame G; 5th. The endless bands C, applied to the rollers B, to carry the cloth as set forth.

**No. 2084. LORENZO FORREST, Belleville, Ont., 20th February, 1873, for 10 years: "A Car-Coupler." (Un attache-char.)**

Made self-acting by means of a weight and lever and without the use of springs or other contrivances.

*Claim.*—1st. The combination and arrangement of the swivel-plate bearers B, swivel-plate C, draw-bar D, and suspending loop I; 2nd. The combination and arrangement of the throat F, shoulder K, weight J, and lever L; 3rd. The combination and arrangement of the lifting-rod Q, and lever R.

**No. 2085. GEORGE W. PUTNAM, South Glens Falls, N. Y., U. S., 20th February, 1873, for 5 years: "A Car-Coupler." (Maille d'attache-char.)**

Consists in a plate or bar arranged in the centre of an ordinary coupling-link with a rod extending on both sides, each end of said rod being surrounded by a spiral spring acting upon a slide moving in the link and having a projecting flange around its inner end.

*Claim.*—The combination of the centro-plate or bar B, rod A, springs  $\delta$ ,  $\delta$ , and slides C, C, with flanges  $d$ ,  $d$ , all constructed as described and arranged in a coupling-link  $\alpha$ .

**No. 2086. FRANKLIN S. SMITH, Geneva, Ohio, U. S., 20th February, 1873, for 5 years: "A Lifting Jack." (Un cric.)**

*Claim.*—It consists in the link or swing-fulcrum E, lever F, having a curved or hooked end F<sup>1</sup>, arranged to operate in combination with the slide C, and pins  $\delta$ .

**No. 2087. FREDERICK E. B. BEAUMONT & CHARLES J. APPLEBY, London, Eng., 20th February, 1873, for 10 years: "A Rock or Stone Drilling and Tunnelling Apparatus." (Appareil à percer le roc ou la pierre et pour les tunnels.)**

Consists of an apparatus wherein cutters consisting of diamonds or gems set around a tubular holder are pressed against the rock

or stone and rotated, the gems being thereby caused to cut an annular groove leaving a cylindrical core which is broken away from time to time.

*Claim.*—1st. A rock or stone drilling apparatus the driving axis B, in combination with the toothed wheels F, D, clutch C, friction discs E, E<sup>1</sup>, compressing gear T, and brake blocks K, P, all arranged and operating as described with reference to Figs. 1 to 7, of the drawings; 2nd. In combination with the screwed hollow drill bar I, spur wheel and tube J, J, spur-wheel and tube K, K, driver L, brake-strap M, nut N, and anti-friction rollers  $\alpha$ , all arranged and operating as described with reference to Figs. 1 to 7 of the drawings; 3rd. A tunnelling machinery the transom K, with horizontal shafts  $i$ ,  $i$ , driven by bevel gearing  $i$ ,  $i$ , A<sup>1</sup>, shaft  $h$ , and bevel-wheel A<sup>1</sup>, from the crank shaft  $\rho$ , of the motive power-engine  $f$ , on carriage  $\alpha$ , the screw spindles  $\sigma$ , on transom  $k$ , for traversing saddles  $n$ , carrying standards  $m$ ; the vertical shafts  $l$ , driven by bevel gearing from the shaft  $i$ , and having bevel gearing for driving the drilling apparatus fixed on face plates  $p$ , and the vertical screws  $q$ , in standards  $m$ , with nuts for traversing face plates  $p$ , all combined and operating as described with reference to Figs. 8 to 10 of the drawings; 4th. Combination with the transom  $k$ , and standards  $m$ , the axle and wheels  $e$ ,  $e$ , connected to the transom  $k$ , by links  $s$ , with joints and stops  $t$ , the ties  $t$ , connected to standards  $m$ , and to nuts  $l$ , on screw spindles  $\sigma$ ; carried by carriage  $\alpha$ , and the shaft Y, driven by gearing  $h$ , from shaft  $h$ , and imparting motion to screw spindles  $\sigma$ , by means of bevel gearing V, W<sup>1</sup>, W<sup>2</sup>, clutch  $x$ , shaft W, and bevel pinions W<sup>3</sup>, and  $u$ , all combined and operating as described with reference to Figs. 8 to 10, of the drawings; 5th. Diamond or gem-cutters the enlarged head  $b$ , into which the gems  $\alpha$ , are sunk and which is cut away at  $b$ ,  $b$ , to leave the cutting sides of the gems exposed as described with reference to Figs. 11 to 13 of the drawings.

**No. 2088. FREDERICK E. B. BEAUMONT & CHARLES J. APPLEBY, London, Eng., 20th February, 1873, for 10 years: "A Hydrostatic Rock or Stone boring or Prospecting Machine." (Appareil hydrostatique pour percer le roc ou la pierre ou sondage des mines.)**

For sinking deep bore holes to serve as wells, or to give indication of the strata, wherein the pressure on the boring-tool is controlled and the boring-rod is raised and lowered by hydrostatic apparatus.

*Claim.*—1st. The cylinder  $b$ , with piston  $c$ , and tubular piston rod  $e$ , fitting over the fixed tube  $d$ , and attached at its lower end to the sliding cross head  $e$ , with tube  $g$ , carrying the boring-rod and rotated by toothed gearing  $h$ , A<sup>1</sup>, from the shaft  $h$ ; 2nd. Combination with the cylinder  $b$ , the accumulators  $m$  and  $\alpha$ , pumps  $n$  and  $p$ , pipes  $l$ ,  $s$ ,  $p$ ,  $p$ , and reservoir  $r$ , in framing  $\alpha$ ; 3rd. The provision of steam and exhaust passages, and a slide valve to the cylinder  $b$ , for actuating the piston  $c$ , by steam-power in order to adapt the machine for working a pumping boring tool.

**No. 2089. FREDERICK E. B. BEAUMONT & CHARLES J. APPLEBY, London, Eng., 20th February, 1873, for 10 years: "Rock or Stone boring or Prospecting Machinery." (Machine à percer le roc ou la pierre, ou sondage des mines.)**

Relates to the arrangement of machinery for applying tubular diamond, gem, or other boring tools or drills, to the production of deep bore holes to serve as wells or to give indication of the strata through which the hole is sunk.

*Claim.*—1st. In the slotted tube  $f$ ,  $f$ , passing through the hollow axis  $e$ , receiving rotary motion from the shaft  $d$ , through gearing  $d$ , in combination with the sliding bearing  $g$ , clutch  $f$ , and hollow boring-rod  $h$ ; 2nd. Combination with the tube  $f$ ,  $f$ , and bearing  $g$ , the weight carriers  $n$ ,  $n$ , chains  $\rho$ ,  $\rho$ , chain-wheel  $\alpha$ , spur wheel  $\alpha$ , pinion  $p$ , and rope pulley  $p$ ; 3rd. Combination with the hollow boring-rod  $h$ , the plug and shell  $h$ , flexible water-pipe  $k$ , with sluicing block  $k$ , and force-pump  $k$ .

**No. 2090. EDWIN H. GIBBS, New York, U. S., 20th February, 1873, for 5 years: "Apparatus for Manufacturing Soap." (Appareil pour la fabrication du savon.)**

*Claim.*—The agitator composed of spirally arranged concave blades F, on a horizontal shaft D, in combination with the close mixing chamber C, for stirring, lifting and forwarding the materials and mixture within the said chamber, while acted on further by heat and pressure.

**No. 2091. CHARLES G. C. SIMPSON, Montreal, Que., 20th February, 1873, for 5 years: "Improvements on Truss Bridges." (Perfectionnements dans la structure des ponts.)**

*Claim.*—1st. The combination of the bottom chords  $\alpha$ , with recessed prism  $d$ , and covers  $s$ ; 2nd. Prism  $d$ , having flanges  $f$ , and  $h$ ; 3rd. Prism  $d$ , having flanges  $t$ , and  $u$ , and entablature  $v$ ; 4th. Prism  $d$ , with recessed covers  $s$ , in combination with the chord or chords  $\alpha$ , and india rubber cover  $r$ ; 5th. The top chord when composed of wrought or cast iron plates, with web  $a$ , arranged horizontally as described; 6th. The manner of securing the ends of the chord  $\alpha$ , when composed of iron wire.