

No. 38,658. Journal Box for Steam Engines.*(Cousinet à tourillon pour machines à vapeur.)*

William Fussell, Lockport, New York, U.S.A., 6th April, 1892; 5 years.

Claim.—1st. The combination, of a box D, having ribs on its back, of a holder for said box engaging with said ribs and constructed to move on a pivotal point in its support, substantially as described. 2nd. The combination, with a divided box D, each section having a groove on its outer surface, of the pillars C, fitted to said grooves and supported on central pivots, substantially as described. 3rd. The combination, with the frame of an engine, of a divided box D, each section having a grooved rib, and a pillar C, fitted to said groove, and provided with a pivotal lug c, fitting into holes in the frame of the engine, substantially as described.

No. 38,659. Stop for Engines and Machinery.*(Arrêt pour machines à vapeur, etc.)*

Josiah Nesbitt and John J. Coulter, both of Toronto, Ontario, Canada, 6th April, 1892; 5 years.

Claim.—1st. A vertical bar A, suitably connected to the driving mechanism to be stopped, and having a dog C, pivoted upon it and arranged to engage with the lever F, supported on its knife edged projection E, by the bracket D, in combination with the pivoted latch I, arranged to engage with and hold the lever F, operated by pneumatic pressure or an electric circuit, substantially as and for the purpose specified. 2nd. A lever F, arranged to engage with the pivoted dog C, and supported by its knife edged projection E, an adjusting screw N, projecting from the bracket M, in combination with the pivoted latch I, and pneumatic operated diaphragm J, substantially as and for the purpose specified. 3rd. The pneumatic pipe K, provided with an operating button L, and connected to the diaphragm J, in combination with the valve h, suitably connected to the pivoted lever J, which is actuated by the downward movement of the vertical bar A, substantially as and for the purpose specified. 4th. The pneumatic pipe K, connected to the diaphragm J, and to the diaphragm Z, the valves h and i, located in the said pneumatic pipe and connected together, in combination with the lever g, suitably connected to the said valves and operated by the downward movement of the bar A, substantially as and for the purpose specified. 5th. The toothed wheel P, actuated by a suitable weight or spring, and held stationary by the dog S, the tail W, which projects between the lugs V, formed on the bracket U, which is provided with projections b, the bell hammer d, and gong f, in combination with the weighted arm X, connected to the pivoted bracket U, and provided with a weight a, substantially as and for the purpose specified.

No. 38,660. Barrel and Cask and Apparatus for their Manufacture. *(Baril, tonneau et appareil pour leur fabrication.)*

Gustav Adolph Oncken, Chicago, Illinois, U.S.A., 6th April, 1892; 5 years.

Claim.—1st. The method of producing barrels or casks from a continuous board, or several layers of veneer cut from a rotating block or log of wood, by cutting out wedge-shaped pieces on both sides of the board, in such a manner that the interstices of one edge will come opposite the solid part of the other edge, then rolling up the board to the diameter of the finished cask, drawing in at the chimes, drying, hoop, crozing and chaulfering the cask, substantially as and for the purpose specified. 2nd. A machine for cutting out wedge-shaped pieces alternately on both edges of a board for producing barrels or casks, consisting of two alternately actuated cutting dies, in combination with one or more pairs of step by step agitated feeding rollers, a pair of bottom dies or matrices ¹², and guide blocks n, all substantially as and for the purpose set forth. 3rd. In a machine for cutting out wedge-shaped pieces alternately on both edges of a continuous board, for producing barrels or casks by means of reciprocating cutting dies, a convex bottom die, and a support sloping from the elevated upper face of the said bottom die towards the feeding rollers, substantially as and for the purpose specified. 4th. In a machine for cutting out wedge-shaped pieces alternately on both edges of a continuous board, for producing barrels or casks, the combination of the feeding rollers r and s, wheels g, g¹, pinion p on the shaft p¹, friction wheel o, and a friction segment n¹ secured to the driving shaft, all substantially as and for the purpose set forth. 5th. In combination with a furnace, an exhaustor w, and a support for carrying and conveying barrels or casks placed end to end to form a continuous tube for conducting the gases of combustion and hot air from the furnace to the exhaustor, substantially as and for the purpose set forth.

No. 38,661. Process of and Apparatus for Forming and Welding Metals by Electricity. *(Procédé et appareil pour former et souder les métaux par l'électricité.)*

The Thomson International Electric Welding Company, Boston, assignees of Elihu Thomson, Swampscott, both in Massachusetts, U.S.A., 6th April, 1892; 5 years.

Claim.—1st. The herein described process of forming metal in any desired shape, consisting in placing the metal into an electric circuit between two clamps, holders or abutments, passing an electric

current through the same in volume sufficient to heat the metal to plasticity, communicating end pressure to the work in a line parallel to the line joining the clamps or holders, and then swaging the metal, while still heated and retained in position between the clamps, holders or abutments, into the desired form, by devices applied in a line transverse to the line joining the holders and conforming to the desired shape of metal. 2nd. The herein described improved process of welding and forming metal at the joint, consisting in abutting the pieces to be welded, passing an electric current from one to the other, subjecting the pieces to end pressure, so as to unite them and cause a tendency to lateral swelling or expansion at the joint, and then swaging the joint into form through the action of formers applied in a line transverse to the line of preliminary pressure and conforming to the ultimate shape of the metal desired at the joint. 3rd. The herein described process of forming metal into any desired shape, consisting in securing the metal between two clamps or abutments, heating the metal by an electric current passing from one clamp or abutment to the other through the metal between them, moving one of the clamps toward the other and then applying a swaging device having surfaces of the desired form in a direction transverse to the line of movement of the clamps. 4th. The combination, substantially as described, in an electric metal working apparatus, of two clamps or holders adapted to hold a piece of metal between them, means for imparting movement of one holder toward the other, so as to subject the work to end pressure while heated by the electric current passing through the work from one holder to the other, and a metal swaging or forming apparatus, the anvil and stool of which are arranged, respectively, at opposite sides of the line joining the clamps or holders and in position to engage the work in the clamps, as and for the purpose described. 5th. The combination, substantially as described, of an electric welding apparatus having means for moving one of its clamps or holders toward the other, a swaging apparatus, the anvil and die of which are arranged at opposite sides of the line joining the clamps of the welding apparatus and in position to engage the part of the work in position between the clamps of the welding apparatus, as and for the purpose described. 6th. The combination, substantially as described, in an electric metal working apparatus, of two clamps or holders connected with a source of heavy currents, and provided with means whereby end pressure may be communicated to the work while heated between them, and a drop-press, the anvil of which is arranged to one side of the line of joining the clamps, and in proximity to the work held in the clamps. 7th. The combination, substantially as described, in an electric metal working apparatus, of two clamps or holders provided with means for moving them toward one another while the work is heated electrically between them, and a drop-press, the anvil and drop of which are arranged at opposite sides of the line joining the clamps or holders, and in position to engage with the work while held between them.

No. 38,662. Electric Welding. *(Soudage électrique.)*

The Thomson International Electric Welding Company, Boston, assignees of Elihu Thomson, Swampscott, both in Massachusetts, U.S.A., 6th April, 1892; 5 years.

Claim.—1st. The herein described improvement in electric welding, which consists in applying lateral compressing or condensing force to the weld during the application of the endwise welding pressure or force, which tends to upset the metal, so as to form a lateral expansion at the joint. 2nd. The herein described improvement in electric welding, which consists in abutting the two pieces to be welded, applying an electric current for heating the metals at the joint or intended union, and during the heating and welding of the pieces applying an end pressure to force them together simultaneously with a sharpening or compressing lateral impact or pressure by compressing dies or hammers or other means, whereby any expansion at the joint is prevented and the joint is completed at the same time as the welding. 3rd. The improvement in electric welding of pieces of metal, which consists in heating the same by an electric current passing across the joint, applying end pressure to the joint to tend to upset the pieces, and opposing the tendency to upsetting by lateral pressure or impact applied to the sides at or near the joint, whereby the weld is completed and the shape of the pieces preserved.

No. 38,663. Electric Welding Transformer.*(Transformateur pour soudage électrique.)*

The Thomson Electric Welding Company, Boston, assignees of Hermann Lemp, of Lynn, both in Massachusetts, U.S.A., 6th April, 1892; 5 years.

Claim.—1st. The combination, in a transformer, of the two or more secondary bars or conductors and primaries therefor, an iron core common to said secondaries and primaries, and an iron bridge piece connecting the sides of the core, as and for the purpose described. 2nd. The combination, with a compound transformer comprising two or more secondaries and corresponding primaries therefor applied at different parts of a common iron core, and having magnetic bridges from one side to the other of the core, of means for regulating the current flow in the primaries independently of one another. 3rd. The combination, with the divided work-holder, of the independent sources of electricity supplying heating current thereto, and means for increasing the energy of one source while simultaneously decreasing