barrel, a casing provided with a steam chamber surrounding the die barrel, a lower die, means for raising the said lower die, an upper die provided with a steam chamber and means for applying

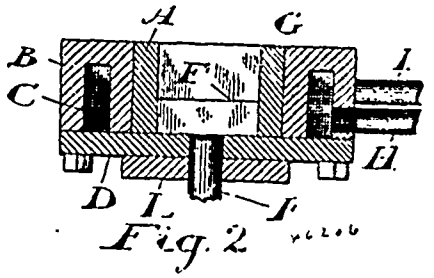
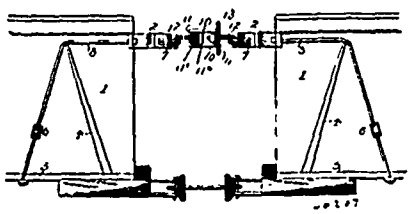


Fig. 2

pressure to the said upper die, substantially as and for the purpose specified. 4th. In an apparatus for the manufacture of carbon brushes, the combination of a die barrel, a casing provided with a steam chamber surrounding the die barrel, a lower die, an upper die provided with a steam chamber and means for applying pressure to the said upper die, substantially as and for the purpose specified. 5th. In an apparatus for the manufacture of carbon brushes, a die barrel in combination with a surrounding casing provided with a steam chamber divided by a partition, and provided with a steam inlet on one side of the partition and a steam outlet on the other, substantially as and for the purpose specified. 6th. In an apparatus for the manufacture of carbon brushes, the upper die O, having holes Q, S, T, U, drilled therein, in combination with plugs R, steam inlet *a*, and steam outlet *b*, substantially as and for the purpose specified. 7th. In an apparatus for the manufacture of carbon brushes, the combination of the die barrel A, casing B, enclosing a steam chamber C, surrounding the die barrel and provided with steam inlet and outlet pipes H and I, the lower die F, connected to the treadle M, by the rod E, the upper die O, provided with a steam chamber and steam inlets and outlets *a* and *b*, for the same, and a press J, to the spindle of which the said upper die O, is connected, substantially as and for the purpose specified. 8th. In an apparatus for the manufacture of carbon brushes, the combination with a die barrel surrounded by a steam jacket, of a lower die and an upper die, substantially as and for the purpose described.

No. 46,207. Car Coupling. (*Attelage de chars*)



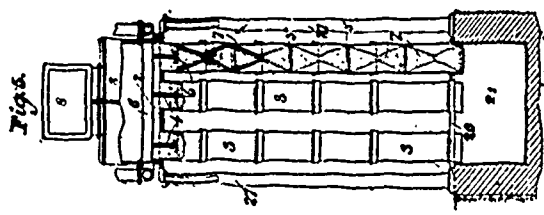
Henry Kern Knox, Vevay, Indiana, U.S.A., 1st June, 1894; 6 years.

Claim.—1st. The combination, with a railway car of the curved transverse draft-bars located below and projecting from the roof of the car, and provided with movable eye-bolts adapted to engage a hooked coupling, substantially as described. 2nd. The combination, with a railway car of the curved transverse draft bars, having central movable coupling-bolts and provided with side rods, passing along opposite sides of the car, across diagonal braces stepped in the bottom sills, and fastened in the said sills on the farther side of the brace, substantially as described. 3rd. The combination, with the transverse draft-bars having central reinforcing-plates provided with rotatable eye-bolts, of the coupling comprising the side pieces 10, screw-threaded heads 11, hand wheel 13, and adjustable screw-threaded hooks 12, substantially as described.

No. 46,208. Smoke Purifier and Draught Increaser.
(*Appareil pour purifier la fumée et augmenter le tirage.*)

Edwin Wardle, of the Boyne Engine Works and Joseph Henry Evers, of 14 Middleton Crescent, Deusbury Road, both in Leeds, England, 1st June, 1894; 6 years.

Claim.—1st. In apparatus for washing smoke and gaseous products, a washing tube provided with inclined perforated baffles arranged to form a zig-zag passage and over which water can be caused to flow substantially as herein described for the purpose specified. 2nd. In apparatus for washing smoke and gaseous products, a washing tube provided with perforated hollow bodies or decreasing cross sectional areas from one end to the other, said bodies being arranged one above the other so that washing water will flow over the inner surface of one and over the outer surface of the next and so on in a zig-zag manner, substantially as herein described for the purpose specified. 3rd. In apparatus for washing smoke and gaseous



products, a washing tube provided with internal guide ribs and fitted with perforated hollow bodies having inclined surfaces and arranged one above another with the upper open end of each alternate one located beneath one of said ribs, substantially as herein described for the purpose specified. 4th. In apparatus for washing smoke and gaseous products, a washing tube through which the smoke and gaseous products are to flow, one or more water nozzles arranged within said tube, and a baffle or baffles arranged opposite said nozzle or nozzles so that water will issue therefrom in the form of a sheet or sheets that will extend to the inner surface of said tube, substantially as herein described for the purpose specified. 5th, Apparatus for washing smoke and gaseous products, comprising one or more tubes each adapted to be placed in communication at one end with a furnace flue and at the other end with a chimney or with the external atmosphere, perforated bodies of hollow conical form in axial section arranged one above another within said tube or tubes so as to form a zig-zag passage therein, and water supply apparatus for discharging water into the upper end or ends of said tube or tubes, substantially as herein described. 6th. Apparatus for washing smoke and gaseous products, comprising a plurality of vertical washing tubes each fitted with perforated bodies of hollow conical form in axial section arranged one above another so as to form a zig-zag passage, an inlet chamber adapted to be placed in communication with a furnace flue and common to the inlet ends of said tubes, an outlet chamber common to the outlet ends of said tubes and provided with an outlet branch, and means for supplying water to the upper ends of said tubes, substantially as herein described. 7th. In apparatus for washing smoke and gaseous products, the combination with one or more vertical washing tubes, and an inlet chamber with which said tube or tubes communicate, of a second chamber adapted to be placed in communication with a furnace flue, a plurality of horizontal tubes connecting said chambers, and a plurality of water nozzles carried by a water supply vessel and arranged to project water into said horizontal tubes, substantially as herein described for the purpose specified. 8th. Apparatus for washing smoke and gaseous products from furnaces, comprising a plurality of vertical washing tubes, each fitted with perforated bodies of hollow conical form in axial section arranged one above another so as to form a zig-zag passage, inlet and outlet chambers common to said tubes, means for supplying water to the upper ends of said washing tubes, a third chamber adapted to be placed in communication with a furnace flue, a plurality of horizontal tubes connecting said inlet and third chambers, and a plurality of nozzles carried by a water supply vessel, and arranged to project water into said horizontal tubes, substantially as herein described for the purposes specified. 9th. Apparatus for washing smoke and gaseous products from furnaces, comprising one or more washing tubes provided or each provided with inner horizontal guide ribs, a water nozzle and baffle, and perforated hollow truncated cones arranged one above the other in pairs with the upper open end of one of the cones of each pair below one of said guide ribs, and inlet and outlet chambers in communication with the respective ends of said tube or tubes, substantially as herein described for the purpose specified. 10th. Apparatus for washing smoke and gaseous products, comprising washing tubes 3, provided with internal ribs 3ˣ, and fitted with superimposed pairs of hollow truncated cones 7, having closed smaller ends, upper and lower chambers 8 and 21 common to said tubes and provided with with branches 8ª and 2 respectively, water supply pipes 6 located in said chamber 8, and provided with nozzles 4, and baffles 5 arranged in the upper ends of said tubes, and a receptacle 24 connected with said chamber 21, substantially as herein described for the purpose specified. 11th. In apparatus for washing smoke and gaseous products, a washing tube provided with a compound water nozzle, comprising several tubes fixed one within the other with water passages between them and each projecting beyond the tube that carries it, and annular baffle plates fixed opposite the water passages between said tubes, substantially as herein described for the purpose specified.

No. 46,209. Storage Electric Battery.
(*Accumulateur électrique.*)

Alfred Oblasser, Paris, and Charles Theryc, Marseilles, all in France, 1st June, 1894; 6 years.

Claim.—The process of making a secondary battery element, by forming an envelope with perforated sides, from sheets of celluloid