net or solenoid supported thereon, a carbon rod clamp actuated thereby and a derived circuit electro-magnet or solenoid, a lever rigidly supported at one point and elastically supported at another, and connected with the frame and the derived circuit electro-magnet or solenoid, so that the latter effects the movements of the former. 8th. In an arc lamp, the combination of a carbon separating electro-magnet or solenoid with a carbon clamp connected therewith and operated thereby, a derived circuit electro-magnet or solenoid, and an armature operated by the latter and connected with the former so as to move the said carbon separating magnet or solenoid. 9th. In an arc lamp, the combination of a moving carbon separating device containing a main circuit electro-magnet of solenoid, and a carbon rod clamp controlled thereby to separate the carbons, with a derived circuit electro-magnet or solenoid and an armature connected therewith and operated thereby, and connected also with the moving carbon separating device. 10th. In an arc lamp, the combination of a moving main circuit carbon separating electro-magnet or solenoid with a carbon clamp connected therewith and operated thereby, a derived circuit electro-magnet or solenoid, and a lever connected with said carbon separating device and operated by the derived circuit electro-magnet and solenoid, said lever supported fixedly at one end and elastically at the other. 11th. In an arc lamp, the combination of a carbon separating device consisting of a parallel moving frame, a main circuit electro-magnet or solenoid supported thereon, a carbon rod clamp supported by such electro-magnet or solenoid with a derived circuit electro-magnet or solenoid, and an armature extending between the latter magnet and the frame, so that it effects the motion of said frame. 12th. In an arc lamp, a moving carbon separating device containing the main circuit electro-magnet or solenoid and the carbon rod clamp, in combination with a double acting stop for the clamp, both clamp and stop controlled by said magnet. 13th. In an arc lamp, an electro-magnet mounted on a movable frame, in combination with a carbon rod clamping device and a double acting stop for such clamp, both carbon rod and clamp and the stop therefor actuated by said electro-magnet. 14th. In an arc lamp, an electro-magnet mounted on a moving frame, a carbon rod clamp, a double acting stop for such carbon clamp, and a derived circuit electro-magnet, an armature therefor connected with the clamp, both clamp and stop being actuated by the first mentioned magnet or solenoid, and the clamp by the section mentioned electro-magnet or solenoid. 15th. In an arc lamp, an electro-magnet mounted on a movable frame, in combination with a carbon rod clamping device, a double acting stop for such clamp, connections from the electro-magnet or solenoid to the clamp and stop, and a derived circuit elecro-magnet or solenoid, and an armature actuated thereby and connected with the carbon separating device. 16th. In an arc lamp, the combination of a moving elastically supported carbon separating device which contains a main circuit electro-magnet or solenoid and a carbon rod clamp, a double acting stop for said clamp, a derived circuit electro-magnet or solenoid, and an armature actuated by the last mentioned electro-magnet or solenoid and connected with so as to move the carbon separating device. 17th. In a carbon clamp for arc lamps, the combination of two opposed carbon clamping pieces, one shaped like a bell crank lever, an arm on which both are pivoted, the one at its angle, means for moving said latter piece to control the carbon. 18th. In a carbon clamp for arc lamps, the combination of two opposed carbon clamping pieces, one shaped like a bell crank lever, an arm on which both are pivoted, one at its angle, means for simultaneously moving the pivoted end of said arm and swinging the angular piece on such pivot, to cause the pieces to clamp or release the carbon. 19th. The combination of a carbon rod with a frictional clamping device, and a lever adapted to engage one edge of said clamp operated by engagement of a second carbon rod, by means of which the said first rod is supported by said clamp at various distances along the rod.

No. 34,450. Neck Tie Holder.

(*Montre à cravates.*)

George A. Huewe, Cincinnati, Ohio, U.S., 2nd June, 1890; 5 years.

Claim.—1st. The combination of a folding box, strip *a* having openings a^1, and attached to the back of the box, and yoke E, having outwardly springing legs e^1, substantially as and for the purposes specified. 2nd. The combination of a folding box, strip *a* having openings a^1, and attached to the back of the box, and yoke E having outwardly springing legs e^1, provided with teeth e^2, substantially as and for the purposes specified.

No. 34,451. Wrest Plank or Pin Block in Piano Fortes. (*Sommier de piano.*)

Mason and Risch, (assignees of Vincent M. Risch,) Toronto, Ont., 2nd June, 1890; 5 years.

Claim.—1st. The method of binding together the several parts of the wrest plank A, B, C, C^1, and the whole to the piano frame D, E, E^1, by means of dovetails and dowels of wood F, F^1, substantially as above shown. 2nd. In a piano-forte, the combination, with the wrest plank A, B, C, C^1, and the several parts of the frame D, E, E^1, of the dovetails and dowels of wood F, F^1, in the manner and for the purpose aforesaid.

No. 34,452. Curling Tongs. (*Fer à friser.*)

Walter H. Bagshaw, Lowell, Mass., U.S., 2nd June, 1890; 5 years.

Claim.—1st. A hair-curling instrument, consisting of a handle and two parallel spring arms, disposed in close proximity or contact, the outer free ends of said arms being beveled inwardly. 2nd. A hair-curling instrument, consisting of a handle and two parallel spring arms disposed in close proximity or contact, the outer free ends of said arms being beveled inwardly from their outer to their inner edges. 3rd. A hair-curling instrument, consisting of a handle and two parallel spring arms disposed in close proximity or contact, the outer ends of said arms being beveled inwardly, and the inner ends or shanks thereof being tapered. 4th. Curling tongs, constructed by slotting the elongated back of a metallic comb longitudinally, the outer or free ends of the arms thus formed being beveled inwardly, substantially as described.

No. 34,453. System of Fire Protection.

(*Système de protection contre l'incendie.*)

David A. Jones, Beeton, and George Dickson, Toronto, Ont., 2nd June, 1890; 5 years.

Claim.—1st. As an improved system of fire protection, one or more perforated pipes suitably arranged on or in the structure to be protected, and connected to a water and gas service supplied under pressure, and provided with a cut-off valve to prevent the water and gas pressure entering the perforated pipe or pipes until required, substantially as and for the purpose specified. 2nd. As an improved system of fire protection, one or more perforated pipes suitably arranged on or in the structure to be protected, and connected to a water service supplied with water under pressure, and provided with a cut-off valve to prevent the water pressure entering the perforated pipe or pipes until required, in combination with an antomatic cut-off valve supported by a cord carried by an inflamable or explosive connecting loop, having one or more fuse cords extending from it, substantially as specified.

No. 34,454. Type Writing Machine.

(*Graphotype.*)

The Yost Writing Machine Company (assignee of J. Felbel and A. W. Steiger), New York, N.Y., U.S., 2nd June, 1890; 5 years.

Claim.—1st. In a type-writing machine, a type-carrier pivoted at one point to the free end of one pivoted link, and at another point to the free end of another pivoted link, the said links being arranged to vibrate in opposite directions and cause the type to move in two well-defined paths, first, in substantially a horizontal direction radially inward to the common centre, and then substantially in a straight line and axially to the printing surface, substantially as shown and described. 2nd. In a type-writing machine, the combination of a centrally-arranged fulcrum support, a series of links L radiating therefrom, a concentric and exteriorly-arranged fulcrum support, another series of links H radiating therefrom towards the links L, and a series of type-carriers pivoted to said duplex series of radiating links H and L, substantially as set forth. 3rd. In a type-writing machine, the combination of a series of pivoted links H, extending inwardly and downwardly, a series of links L, pivoted nearer the centre of the machine and extending outwardly and downwardly, and a series of type-carriers consisting of the arms *f*, f^1 f^2, disposed as described, and pivoted to the free ends of the links H and L at the points K, K^2, substantially as set forth. 4th. In a type-writing machine, the combination of a series of inwardly-extending pivoted links H, a platen above said links, a circular inking surface above said links and between them and the platen, a series of outwardly extending pivoted links L, and a series of type-carriers, each pivoted at two points to the free ends of a pair of said links H, L, substantially as and for the purpose set forth. 5th. In a type-writing machine, the combination, with an inking-surface, as P, and a platen above the same, of a type-carrier F, and the oppositely-arranged links H and L, adapted to move the type from the inking surface, give it a quarter turn, and then move it to the platen, as set forth.

No. 34,455. Bow Facing Oar.

(*Rame articulée.*)

Joseph H. Stewart and Jacob Thomas, Bluff, Tenn., U. S., 2nd June, 1890; 5 years.

Claim.—1st. In a jointed rowing oar, the castings or parts D and E connected to each other by a hinged joint, the blade portion E having a slot through which passes a pin secured to a bed-plate, said slot being located beyond the pivoted portions of the oar, the section D having two or more perforations, and a pin for securing said sections to the plate B, said section being provided with a handle while the opposite section carries a blade, the bed plate having a plain upper surface and pivoted to a support, substantially as shown and for the purpose set forth. 2nd. In a bow-facing oar, consisting of two sections hinged to each other, said sections carrying the handle and blade, a plate having a transverse pivoted pin, by means of which it is secured between the bifurcated portions of the plate A, said bifurcated portions having one or more perforations, through which a pin is passed for limiting the inclination of the plate B, substantially as shown and for the purpose set forth. 3rd. The combination, with a bow facing oar, constructed substantially as shown, or a plate or support A, having vertical members, with a series of perforations through which passes a removable pin or bolt, the upper portions of said plate between the members thereof being beveled, substantially as shown. 4th. The combination, with the jointed cross-sections, one of which is provided with a slot, through which passes a pin, the adjacent section to which it is hinged being pivotally connected to a plate by a pin, the outer ends of said sections being provided with sockets, so that the handle and blade can be removably connected thereto, of the pivoted plate B having a flat upper surface above which the sections D and E move, a transverse pivot bolt located to one side of the centre of the plate B, said bolt being provided with means for locking the same to the vertical members of the support A, substantially as and for the purpose set forth.

No. 34,456. Chain Link, Finger Ring, etc.

(*Maillon de chaîne, anneau, etc.*)

The Burdon Seamless Filled Wire Company (assignee of Levi L. Burdon), Providence, R.I., U.S., 2nd June, 1890: 5 years.

Claim—1st. As a new article of manufacture, a ring or other class of articles, as hereinbefore described, having a longitudinally round-