

connection G extending up through the hollow post of the cylinder C provided with an oil receptacle in its bottom, and a piston D to which the wire connection is attached, said piston resting in the cylinder and provided with a hoop or band *f* for dipping into the oil, and a packing *e* for preventing escape of the confined air, as herein shown and described. 3rd. In a pneumatic signal, the combination, with the wire connection G extending up through the hollow post of a cylinder C provided with an air inlet valve in its bottom, a piston D to which the connection is attached resting in the cylinder, an air escape attachment on top of the piston provided with a series of perforations of graduated sizes, and a segmental plate for changing the escape of the air from one perforation to another, as set forth. 4th. In a pneumatic signal, the combination, with wire connection extending up through the hollow post, of a cylinder C provided with an air inlet valve in its bottom, a piston D to which the connection is attached resting in the cylinder, and an air-escape attachment consisting of a cup provided with a fibrous packing through which the air is filtered, the cup having a series of graduated perforations, and a segment plate *g* resting over the perforations and changeable to different positions, as and for the purpose specified. 5th. In a pneumatic signal, the combination, with the wire connection G extending up through the hollow post, of a cylinder C provided with an inlet valve, a piston D to which the connection is attached resting in the cylinder, an air escape L attached to the piston and provided with a series of perforations of graduated sizes, and a segment plate *g* resting over said perforations and provided with a channel *h*2, which by being shifted from one perforation to another, changes the amount of escape of air from the cylinder, as herein set forth. 6th. In a pneumatic signal, the combination, with the wire connection G, of the cylinder C provided with an inlet valve, a piston D resting in the cylinder, an air escape L attached to the piston and provided with a series of perforations of graduated sizes, a segment plate *g*2, provided with a channel *h*2 resting over the perforations, and a spring clam *h*2 and set screw *h*2 for securing the segment plate at any adjustment, as herein set forth. 7th. In a pneumatic signal, the combination, with the hollow post A and with the cylinder C, piston D and wire connection G located in the hollow post, of the air filter M, resting in the post below the cylinder and covering the passage to the cylinder, and serving to filter the air before it reaches the cylinder, as herein shown and described. 8th. In a pneumatic signal, the combination, with the hollow post A, and with the cylinder C, and piston D, of a wire connection G attached to the piston and extending up through the post, said connection consisting of side wires *l*2 running at the sides of the post, which allow the insertion and removal of the lamp between them and a cage *k* *k* of rectangular form, which projects forward to the front of the post and carries the shield *v*, as shown and described and for the purpose specified. 9th. In a pneumatic signal, the combination, with the pulley E, strap F and wire connection G connected with the piston in the cylinder, of the spring arm H attached to the pulley and the re-acting spring *o* *o* attached to the lower end of the arms, as shown and described and for the purpose specified.

**No. 20,839. Combined Bill-Head Printing and Automatic Registering Device.** (*Appareil pour Imprimer les Têtes de Comptes et Régistre Mécanique Combinés.*)

Edward W. Blackhall, Toronto, Ont., and John H. Smith, Buffalo, N.Y., U.S., 7th January, 1885; 5 years.

*Claim.*—1st. In an autographic registering apparatus, the combination of a printing stamp, with a paper-dispensing reel or reels, and a storing reel, all operated in any suitable manner, for simultaneously printing a heading on the paper, and unwinding and winding up the paper strip or strips, substantially as specified. 2nd. In a combined bill-head, printing and automatic registering apparatus, the combination of a paper-dispensing spool, a fac-simile storing reel, a friction operating roller and a printing stamp, the unwinding of one reel and winding of the other being accomplished by the said printing device in connection with the said friction roller, all arranged and operating substantially as specified. 3rd. In an autographic or manifolding device, the dispensing reel having two or more strips of paper wound together thereon, so that two or more lengths may be given off exactly together, substantially as and for the purpose hereinbefore specified. 4th. In an autographic registering apparatus, in combination with the unwinding and winding reels the pressure roller C having a loose shaft with a single toothed eccentric attached thereto, and a spring ratchet attached to the side of the roller, a cog wheel fast on said shaft and the rack-segment D meshing into said cog wheel, which by up-and-down movement of said rack actuates the pressure roller C only one way and consequently only moves the paper forward, all substantially as specified. 5th. In a combined bill-head printing and automatic registering apparatus, the combination of a paper-unwinding reel, a winding reel, a printing stamp and a perforator *r* attached to the printing device, all operated together by a single up-and-down movement of said printing device, segment D, cog *i*, eccentric ratchet, loose shaft *h* and pressure roller C, all substantially as and for the purpose specified.

**No. 20,840. Thermo-Electric Generator.** (*Appareil Thermo-Electrique.*)

Henry Woodward, Toronto, Ont., 7th January, 1885; 5 years.

*Claim.*—1st. In combination with the elements *e*, an inserted composition of slag-wood and cement, as a non-conductor of heat. 2nd. In a thermo-electric generator, the chamber or casing having concentric passages or spaces *f*, *g*, *h*, *k*, divided by partitions *m* into channels, the innermost or central space N forming the flue, as set forth.

**No. 20,841. Bosom Board.**

(*Panache à Repasser les Devants des Chemises.*)

John A. Cupler, Dallas, Penn., U.S., 7th January, 1885; 5 years.

*Claim.*—1st. In a bosom board, the combination, with a padded body having the transverse kerfs or cuts, of the side clamp consisting of the bent wires secured to the under face of the board by staples,

and having angular end bends forming rigid bearings, and the wooden portions made nearly diamond shape in cross section rigidly secured to said end bends, substantially as specified. 2nd. In a bosom board, the combination, with the padded body having the short transverse kerfs or cuts and the clamp rests at the end and sides on its lower face, of the side clamps and end clamps consisting of the bent wires turning in staples on the under face of the board, and having angular bearings on their end bends, and the wooden portions of said clamps rigidly secured on said angular bearings, as set forth.

**No. 20,842. Folder for Sewing Machines.**

(*Pleur pour Machines à Coudre.*)

John E. Lyon, Salem, Mass., U.S., 7th January, 1885; 5 years.

*Claim.*—1st. In a folder for sewing machines, two scrolls mounted one above the other, said scrolls being bent or turned in opposite directions, whereby the lower scroll is adapted to turn the edge of the lower fabric upwardly, and the upper scroll to turn the edge of the upper fabric downwardly, substantially as described. 2nd. In a folder for sewing machines, the folder proper B, in combination with the plate or arm A, constructed and arranged to operate, substantially as set forth.

**No. 20,843. Apparatus for Combustion of Liquid Fuel.** (*Appareil Consommant le Combustible Liquide.*)

Edward C. Burgess, Islington, Eng., 7th January, 1885; 5 years.

*Claim.*—Apparatus for combustion of liquid fuel consisting of a retort and pipes for water, steam and oil, or other liquid hydrocarbon, in combination with an injector nozzle and a shield so arranged that a spray of the hydrocarbon mixed with steam and air and ignited plays against the retort, heating it and producing a body of flame available for other heating purposes, substantially as described.

**No. 20,844. Boiler Furnace.**

(*Fourneau de Chaudière.*)

Absalom Backus, jr., Detroit, Mass., U.S., 7th January, 1885; 5 years.

*Claim.*—1st. A boiler furnace consisting of the combination, with the boiler, of a combustion chamber, a depending wall above the combustion chamber, a feeding throat F and grate, substantially as described. 2nd. The combination, with a boiler, of a combustion chamber, a depending wall above the combustion chamber, a feeding throat F and intermediate air passage F1, substantially as and for the purposes described. 3rd. The combination, with a boiler, of a combustion chamber, a grate consisting of sections E and upright section E1, feeding throat F and intermediate air passage F1, substantially as described. 4th. In a furnace, the combination of the inclined grate section E1 with a section E made of pivoted bars, and a rod connection connecting the same, whereby they may be shaken, substantially as described. 5th. The combination, with a furnace, of the feeding throat at or near the level of the boiler, a feeding throat F on the level of the feeding floor and depending arch D in the combustion chamber, substantially as described. 6th. The combination, with a boiler and feeding throat F, substantially as described, of a feeding floor located on the level with the feeding throat, a chamber beneath for access to the ash pit and a fuel chute for delivering fuel into the feeding floor, substantially as and for the purposes described. 7th. The combination, with a boiler, of a combustion chamber, a depending wall above the combustion chamber and a feeding throat F, substantially as described. 8th. The combination, with the boiler, of a combustion chamber, a grate consisting of section E and E1 and a feeding throat F, substantially as described. 9th. The combination, with a boiler furnace, of a combustion chamber, a depending wall above the combustion chamber, a feeding throat F, a grate consisting of sections *b* and E1 and an air duct to feed air to the products of combustion, substantially as described. 10th. The combination, with the feeding throat F and the air passage F1, of an intermediate partition made adjustable up and down to enlarge or contract the discharge end of the feeding throat, substantially as and for the purposes described.

**No. 20,845. Book-Keeper's Stool.**

(*Banc de Teneur de Livres*)

George B. Edwards, Charleston, S.C., U.S., 7th January, 1885; 5 years.

*Claim.*—The combination of the supporting frame provided with rails, rabbeted substantially as shown, with the chair-frame having bifurcated supporting standards, constructed standards constructed with ends bent to engage the rails, and the wheels pivoted in said standards, whereby the chair is adapted to ride freely on the rails and is held from displacement, as set forth.

**No. 20,846. Pump.** (*Pompe.*)

Wilbur L. Shephard, Hartford, Ct., U.S., 7th January, 1885; 5 years.

*Claim.*—The combination of the piston P, the cylinder Q, the tubular journals I and I1, the water-ways *y* and *y*1, the valves W and W1, the water-ways Z and Z1, and the air chamber X, all constructed and combined substantially as described, and operating together in an oscillating pump, substantially as explained in this specification.

**No. 20,847. Sheet Metal Roofing Plate.**

(*Plaque à Toiture.*)

Patrick H. Regan, Nashville, Tenn., U.S., 7th January, 1885; 5 years.

*Claim.*—1st. The combination of two sheet metal roofing plates, adapted to be arranged with other similar pieces in overlapping courses or layers, and formed at their one edge with a flange *b*, a bead C and a lip D, formed so as to overhang toward said bead and