

vided with lateral openings 19 to register with steam inlet 6 or the enlargement 17, and with a longitudinal depression, as 20, to register with the oil inlet, and a valve stem 12 mounted and adjustable within the hollow valve, all substantially as shown. 18th. In combination with case or shell 1, provided with suitable steam and oil inlets, a discharge nozzle, a shoulder, as 27, and a transverse enlargement, as 23, a hollow valve, as 7, provided with an internal stem 12, a worm wheel 5 secured upon the valve 7 and resting against or in proximity to the shoulder 27, a worm 10 mounted in the enlargement 23 to mesh with the worm wheel, and a cap, as 4, screwing into the end of the shell or case and serving to retain the worm wheel in position. 19th. In an injector burner, the combination, with the case or shell 1, constructed substantially as shown and described, of the rotatable hollow valve 7 provided with a stem 12, and with a loose end plate 8, and a spring interposed between said plate and the case or shell 1. 20th. In an injector burner, the combination, with the case or shell 1, constructed substantially as shown, of the hollow valve 7, the screw stem 12 and worm gearing 5 10, located wholly within the casing for rotating the hollow valve. 21st. In an injector burner, the combination of a case or shell, constructed substantially as shown and described, a rotatable hollow valve, as 7, adapted to regulate the discharge of oil, and a longitudinally-adjustable stem, as 12, mounted within the hollow valve, and adapted to regulate the discharge of steam. 22nd. In an injector burner, the combination, with a case or shell, provided with suitable oil and steam inlets and a discharge nozzle, a rotatable hollow valve mounted therein, a spring arranged substantially as shown to hold the valve to its seat, and a valve stem adjustable within the hollow valve. 23rd. In an injector burner, the combination, with a case or shell, provided with suitable oil and steam inlets and a discharge nozzle, a hollow valve mounted therein, a worm wheel encircling the hollow valve and mounted within the shell (the valve being free to slide through the worm wheel), and a spring bearing upon the end of the hollow valve, all substantially as shown.

No. 27,919. Autographic Telegraph.

(*Télégraphe autographique*)

The Writing Telegraph Company, New York, N.Y. (assignee of James H. Robertson, Rutherford, N.J.), U. S., 3rd November, 1887; 5 years.

Claim.—1st. In an autographic telegraph, the combination, with the receiving stylus arranged to have a free lateral motion over the surface of the paper and armature or armatures, of a liquid-containing receptacle, substantially as described. 2nd. In an autographic telegraph, the combination, with the receiving stylus arranged to have lateral motion over the surface of the paper and armature or armatures, of a liquid-containing receptacle in which said armature or armatures are immersed, substantially as described. 3rd. The combination, with two electro-magnets placed at an angle to each other, of an armature carrier mounted to have a lateral motion, and provided with magnetically separate armatures for said electro-magnets, substantially as described. 4th. The combination, with two electro-magnets placed at an angle to each other, of an armature carrier mounted to have a lateral motion, and provided with magnetically separate armatures arranged to overlap the poles of said magnets, substantially as shown and described. 5th. An armature-carrier, provided with two sets of magnetically separate armatures, the armatures of one set being magnetically connected with those of the other, substantially as described. 6th. An armature-carrier provided with two sets of magnetically separate armatures, the armatures of one set being magnetically connected with those of the other by an adjustable connection, whereby the two sets can be adjusted nearer to or farther from each other, substantially as described. 7th. An armature-carrier, provided with magnetically separate armatures secured to said carrier by a non-magnetic block and set screws, substantially as described. 8th. A flexible laterally movable armature carrying-rod, provided with magnetically-separate armatures, substantially as described. 9th. A movable armature-carrier, provided at its upper end with a stylus, or pen pivoted thereto, substantially as described. 10th. An armature-carrier, provided at its upper end with an arm pivoted thereto, and carrying a fountain-pen, substantially as described. 11th. A movable armature carrier, provided with a counterbalanced stylus, or pen pivoted thereto, substantially described. 12th. A movable armature carrier, provided at its upper end with an arm pivoted thereto, and having an opening and a stylus or pen secured in said opening, substantially as described. 13th. An armature-carrier, provided at its upper end with a bifurcated part, in combination with an arm pivoted to said part, and carrying a pen or stylus at its outer end, substantially as described. 14th. A movable armature-carrier, provided with a projection, in combination with a vessel containing a liquid in which said projection is arranged to dip, substantially as described. 15th. An armature, provided with a projection, in combination with a vessel containing liquid, in which said projection is arranged to dip, substantially as described. 16th. A movable armature carrier, provided with a projection, in combination with a vessel having a depression in its side, as described, to permit said armature-carrier to occupy a central position, said projection being arranged to dip into a liquid contained in said vessel, substantially as described. 17th. The combination, with two line wires and receiving and transmitting instruments (which latter vary the current) included therein, the said line wires being connected at each end to a single ground wire of two batteries of equal power, having poles opposed to each other, substantially as described. 18th. The combination, with the paper feed mechanism of a brake lever for arresting the action of said feed mechanism, and a switch-lever arranged to disengage said brake-lever, when said switch-lever is shifted to put one or both instruments in circuit, substantially as described. 19th. The combination, with the paper feed mechanism of a brake lever for arresting said feed mechanism, a switch-lever provided with a projection for depressing said brake lever, and a spring for returning the latter to operative position, substantially as described. 20th. The combination, with two piles of carbon disks, placed near and at an angle to each other, of a lever arranged to exert a pressure on either one or both of said piles, according to the direction in which said lever is moved, substantially as described. 21st. The combination, with the

piles of carbon disks, placed near and at an angle to each other, of a long lever arranged to exert a pressure near its pivot on either one or both of said piles, whereby the free end of said lever has a large field of motion, and the hand of the operator is not cramped in its movement, substantially as described. 22nd. The combination with two piles of carbon disks, placed near and at an angle to each other, of a lever arranged to exert a pressure on either one or both of said piles, according to its movements, a table provided with an opening, through which said lever extends, and a holder for the hand of the operator, substantially as described. 23rd. The combination, with two piles of carbon disks, placed near and at an angle to each other, of a lever arranged to exert a pressure on either one or both of said piles, according to its movements and a holder for the hand of the operator, substantially as described. 24th. The combination with two piles of carbon disks, placed near and at an angle to each other, of a lever arranged to exert a pressure on either one or both of said piles, according to its movements, and a holder for the hand of the operator, universally pivoted to said lever, substantially as described. 25th. The combination with two piles of carbon disks, placed near and at an angle to each other, of a lever arranged to exert a pressure on either one or both of said piles, according to its movements, and strips of metal arranged between said lever and piles, to which the conductors are attached, substantially as described. 26th. The combination with two piles of carbon disks, placed near and at an angle to each other, of a lever provided with pressure points and arranged to exert a pressure on either one or both of said piles, and strips of metal arranged between said lever and piles for attachment of conductors, substantially as described. 27th. The combination with two piles of carbon disks placed near and at an angle to each other, of a lever universally pivoted at its lower end and arranged to exert a pressure on either one or both of said carbon piles, according to its movements at points between its pivot and free end, substantially as described.

No. 27,920. Adjustable Stove Pipe Hanger and Fastener. (*Appareil mobile de suspension des tuyaux de poêle.*)

John W. Fryer, Toronto, Ont. (assignee of James Stewart, Detroit, Mich., U.S., 3rd November, 1887; 5 years.

Claim.—A stove pipe hanger, consisting of the tube A, the sliding rod B, the set screw a, the angularly adjustable pipe supporting band Bi, and the screw or bolt b, substantially as and for the purpose hereinbefore set forth.

No. 27,921. Chromatic Printing Machine.

(*Machine à imprimer en couleurs.*)

William H. Forbes, Boston (assignee of Dwight S. Clark, Cambridge, and William C. Wendt, Lancaster), Mass., U. S., 3rd November, 1887; 5 years.

Claim.—1st. A chromatic printing press, consisting essentially of an impression cylinder, having around its periphery two or more distinct impression surfaces, with gaps between the successive surfaces for the reception of grippers, and two or more form cylinders in operative relation to and in register with the impression surfaces, substantially as described. 2nd. In a chromatic printing press, the combination of two or more form cylinders, with an impression cylinder having around its periphery two or more distinct impression surfaces, with adjoining gaps for the reception of suitable grippers, the length of each impression surface with its adjoining gap being equal to the circumference of each form cylinder, substantially as described. 3rd. In a chromatic printing press, the combination of an impression cylinder, having its periphery divided into a number of equal parts, consisting each of a distinct impression surface with adjoining gap for the reception of suitable grippers, with a number of form cylinders in operative relation to and in register with the impression surfaces, substantially as described. 4th. A chromatic printing press, consisting of an impression cylinder having around its periphery two or more distinct impression surfaces, with adjoining gaps for the reception of suitable grippers, two or more form cylinders in operative relation to, and in register with the impression surfaces and feeding and delivery devices, substantially as described. 5th. In a chromatic printing press, the combination of an impression cylinder, having around its circumference a number of distinct impression surfaces, with adjoining gaps, and a set of grippers in each gap, with two or more feed boards, each in simultaneous operative relation to two or more sets of the aforesaid grippers, substantially as set forth.

No. 27,922. Machine for Rolling the Threads of Screws and Bolts. (*Machine à fileter les vis et les boulons.*)

Hayward A. Harvey, Orange, N. J., U. S., 3rd November, 1887; 5 years.

Claim.—1st. In a machine for rolling the threads of screws or bolts, two endwise reciprocating and rocking dies, the opposed faces of which are suitably curved, and are provided with systems of parallel ribs extending spirally in relatively opposite directions respectively, means for imparting to one of the said dies two or more to-and-fro endwise movements during the time occupied in rolling the thread upon a blank introduced between the dies, means for imparting to the other die one to-and-fro endwise movement during the same time, and means for imparting during the same time to each of the said dies, first, a prescribed range of slow-rocking movement upon its longitudinal axis in one direction, while the thread is being formed upon the blank, and then a quick return rocking movement in the opposite direction after the threaded blank has been discharged, and while the dies are making their concluding movements by which they reach the relative positions, which they are required to occupy preparatory to the feeding of another blank into the space between their working faces. 2nd. The combination, substantially as set forth, of the endwise reciprocating and rocking dies D and G, provided respectively with the stems D and G, the