

and the retracting springs, substantially as and for the purposes set forth. 3rd. The combination of the base-frame, the lugs and clamp screw for holding a pail or tub, the bell-crank levers having wringer rolls journaled therein and the U-shaped foot lever, substantially as and for the purpose set forth. 4th. In a mop wringer, the combination, with a base-frame, of paired bell-crank levers having their upper extremities bent toward one common center, and carrying the wringing rolls and a treadle lever for operating said bell-crank levers, substantially as set forth. 5th. In a mop wringer, the combination, with a base-frame, of paired bell-crank levers carrying the wringing rollers and a treadle lever to which said bell-crank levers are connected so as to move in union therewith as set forth. 6th. In a mop wringer, the combination, with a base frame and a treadle lever projecting beyond said frame, of the arms 14, for the purpose explained. 7th. In a mop wringer, the combination of a base-frame, a pair of rock shafts journaled therein, a pair of bell-crank levers secured to each of said rock-shafts, a roller carried by each pair of bell-crank levers and a treadle lever for operating said bell-crank levers, as explained. 8th. In combination, the frame 1, the paired bell-crank levers 6 fulcrumed thereon and having the rollers 7, the treadle lever 10 having steps 9 and pins 12 and the springs 13, all constructed and arranged substantially as set forth.

**No. 22,752. Still for Concentrating Sulphuric Acid.** (*Alambic pour Concentrer l'Acide Sulphurique.*)

Charles A. Bartsch, Bridgeport, Ct., U.S., 3rd November, 1885; 5 years.

**Claim.**—1st. In an apparatus for concentrating sulphuric acid, the combination, with a furnace, of a still extending outside of the furnace, and having an outlet-pipe extending from the lowest part of the still and outside of the furnace, substantially as described. 2nd. In an apparatus for concentrating sulphuric acid, the combination, with a still having an outlet pipe at its lowest point, of an equalizing jar connected to the still by said outlet pipe, whereby the depth of the acid in the still is determined by the jar, as set forth. 3rd. In an apparatus for concentrating sulphuric acid, the combination of a still practically cylindrical in form, a separable cover having an opening connected with a condenser, an outlet pipe at the lowest point of the still and outside the fire-box, a jacketed equalizing jar connected to said pipe and an outlet for the said jar, substantially as described.

**No. 22,753. Embroidery Attachment for Sewing Machines.** (*Machine à Coudre faisant la Broderie.*)

Jane Halliwell, (assignee of Joseph P. Lavigne.) New Haven, Ct., U.S., 3rd November, 1885; 5 years.

**Claim.**—1st. In an embroidery attachment, the combination of the vibrating arm D hung to the base-plate and provided with the carrying eye at its free end and with a stud *d* upon one side of the arm and a stud *e* upon the opposite side of its pivot, the reciprocal sliding F constructed with a hook *f* upon one side and a like hook *g* upon the opposite side, said hooks corresponding respectively to the studs *d*, *e*, the bottom of the recess in the edge of the plates by which the hook is formed inclined outward and the lever G hung to the base and constructed for engagement with the needle arm of the sewing machine, substantially as described, and whereby a longitudinal reciprocating movement is imparted to said slide F between said studs *d*, *e*, the inclined edge of the recesses in the slide operating upon the respective studs to impart vibratory movement to said slide in a horizontal plane between said studs.

**No. 22,754. Machine for Producing Relief Surfaces for Letter Press Printing.** (*Machine pour Produire des Surfaces en Relief pour Impression Typographique.*)

Ottmar Mergenthaler, Baltimore, Md., U.S., 3rd November, 1885; 5 years.

**Claim.**—1st. A continuous matrix-bar having a series of intaglio characters formed in its edge to be read transversely thereof, as contrasted with a series of matrices united by a flexible band or cord. 2nd. The improved matrix-bar for use in a stereotyping-machine consisting of a continuous bar having in its edge a series of transverse grooves or notches, each with an intaglio character therein, substantially as described and shown. 3rd. An improved matrix-bar for use in a stereotyping-machine consisting of a continuous bar tapered on its side faces, and provided in its edge with intaglio characters arranged in the order of their width and with intervening surfaces raised above the characters. 4th. The improved matrix-bar for use in stereotyping consisting of a tapered bar having at its edge intaglio characters arranged in the order of their widths, and blank spacing surfaces of different widths also arranged in the order of their width at suitable points between the characters. 5th. A matrix-bar or strip provided at its edge with a line or series of intaglio characters and with a series of spacing-surfaces of different widths distributed between the characters, substantially as described and shown, whereby all the bars may be moved in the same direction and each bar caused to present a character or a space at the aligning point as demanded. 6th. The matrix-bar containing the intaglio characters and the notches to receive an aligning device. 7th. The matrix-bar containing the intaglio characters and the transverse perforations, substantially as shown. 8th. The combination, substantially as described, and shown of a series of bars, each tapered endwise and in the opposite direction from the bar or bars next adjacent thereto, and each provided at the edge with a series of characters, whereby single characters in these several bars may be brought to a common line without being thrown from a vertical position. 9th. In a machine for producing type-bars and the like, the series of parallel bars or carriers, each provided with a line of intaglio characters and intervening spacing-surfaces arranged in the order of

their width, said bars being combined and adapted for independent motion in a longitudinal direction, substantially as described. 10th. In a machine for producing printing bars, the combination of a plurality of independently movable bars arranged side by side tapered alternately in opposite directions, and provided at one edge with intaglio characters and spacing surfaces, substantially as described. 11th. The series of longitudinally moving bars tapered alternately upward and downward and provided with intaglio characters and spacing surfaces, in combination with a series of finger keys to designate the characters devices, substantially as described, for arresting the individual bars at different points, and the connecting mechanism, substantially as described, between the keys and stop devices, whereby the designated characters and spaces may be assembled in a common line to form a matrix. 12th. A temporary or convertible matrix for type-bars or lines consisting of a series of parallel independently movable bars, provided at their edges with intaglio characters, and intervening blank surfaces rising above the characters. 13th. The matrix-bars B tapered in one direction and connected to heads D and the intermediate matrix bars tapered in the reverse direction and connected with slides E by intermediate devices, substantially as described, causing them to move in the opposite direction from said slides, in combination with stop pins engaging respectively the heads of the bars B and the slides of bars B<sup>1</sup>. 14th. In combination with the series of matrix-bars alternately tapered upward and downward and each having characters arranged therein in the order of their width, the heads attached to all the bars, the reversely-moving slides connected to the alternate bars, the stop-pins arranged in rows extending at right angles to the length of the bars, and the latterly movable frame provided with adjusting pins each arranged to act upon the corresponding stop-pins of all the bars. 15th. The combination, substantially as described, of the sliding heads D having the tapered matrix bars attached, the grooved guide-plates for said heads, the slides F, the cords or chains E passing over pulleys from slides F to the alternate matrix bars, and the two series of stop-pins extending rearward different distances to engage the heads and slides, respectively as shown. 16th. In combination with the matrix-bars and stop-pins, the adjusting pins slotted at one end and the crank-shaft extending through said slots, as shown. 17th. The vertically grooved guide plate *i*, the latter provided with shoulders or notches, in combination with the sliding heads D having the matrix-bars attached, the dogs Q, pivoted to said heads and provided with the two shoulders at the lower end, the springs to actuate said dogs, the lifting-head P and the stop-pins. 18th. In combination with the stop-pins G, G<sup>1</sup>, sustaining frame H, the retracting plate I, the supporting studs *n* on which said frame and plate move forward and backward and the vertically-movable frame *o* seated in grooves in the frame H, and provided with the sinuous slots connected with the retracting plate, and the studs *n*, as described and shown, whereby the longitudinal motion of the frame *o* is caused to effect the joint and independent motion of the pin frame and retracting plate and thereby the various adjustments of the stop-pins. 19th. In combination with the gravitating matrix-bars and their sustaining heads, the transverse sustaining bar, the stop pins, the laterally movable frame K, the adjusting pins therein and the connection, substantially as described, between said frame and the bar, whereby support is afforded for those bars not called into action. 20th. The combination, substantially as described and shown, of the matrix-bars, finger keys to designate the characters, the intermediate stop mechanism, substantially as described, whereby the keys are enabled to arrest the advance of the respective bars, and the bar or support to prevent the advance of those bars which are not called into action. 21st. The series of matrix-bars, combined substantially as described and shown, with the finger-keys, the laterally movable frame provided with adjusting pins, the stop-pins, the lifting head P, the dogs Q and the sliding bar, whereby designated characters of the respective bars may be brought to a common line and those bars not called into use retained in their normal position. 22nd. The tapered independently movable matrix-bars, each provided with intaglio characters and two or more spacing surfaces differing in width, in combination with finger keys designating the respective characters and spaces and intermediate stop devices, substantially as described and shown, acting directly to arrest the respective bars, with their predetermined characters and spaces in a common line. 23rd. The adjusting pins, slotted as shown, in combination with the crank shafts passing through the slots, the springs applied to rock said shafts, the finger keys and the rods extending from the keys to the shafts, whereby the springs are caused to retract the adjusting pins and lift the keys. 24th. The matrix-bars, the finger keys to designate the characters, mechanism, substantially as described, to arrest the advance of the individual bars, the rods O to actuate said mechanism, the cam slides *a*<sup>2</sup> attached to said rods, and the indicating mechanism, substantially as described, connected to and operated by said slides whereby the aggregate width of the designated characters is automatically shown. 25th. In combination with the slides *a*<sup>1</sup> and *a*<sup>2</sup>, the dogs *f*<sup>1</sup> and *f*<sup>2</sup>, the indicator rod and its returning spring provided with the projection *u*<sup>2</sup>, the detent *r*<sup>2</sup> and the spring actuated arm, whereby the indicator is automatically operated and restored to the starting point. 26th. The alarm bell and its spring actuated striker having the arms to release the dogs, in combination with the slide *d*<sup>2</sup>, dogs *f*<sup>2</sup> and *f*<sup>1</sup>, indicator rod *q*<sup>2</sup> with the stud *u*<sup>2</sup> and detent *r*<sup>2</sup>, whereby the alarm is operated to indicate the completion of the line and the indicator automatically restored to the starting point. 27th. The bell and its spring actuated striker bearing two trip arms, in combination with the indicator rod bearing studs *u*<sup>2</sup>, *f*<sup>2</sup>, its restoring spring, the detent *r*<sup>2</sup> bearing the shoulder *u*<sup>2</sup>, the dog *f*<sup>2</sup>, *f*<sup>1</sup>, plate *d*<sup>2</sup> and slides *a*<sup>2</sup> connected to the respective finger keys. 28th. In the combination with the bell and spring actuated striker, the detent having both the extremity and the shoulder to engage the striker, and the indicator rod provided with the two studs *r*<sup>2</sup> and *u*<sup>2</sup>, whereby the alarm is caused to sound twice, as and for the purpose described. 29th. In combination with the stop pins arranged in horizontal rows, as described and shown, the laterally movable frame K having adjusting pins J mounted therein, the two weights tending to move the frame K in opposite directions, and mechanism, substantially as described, for throwing said weights into action alternately at will, whereby the series of adjusting-pins may be carried backward past the successive stop pins to effect the justification or correction of the