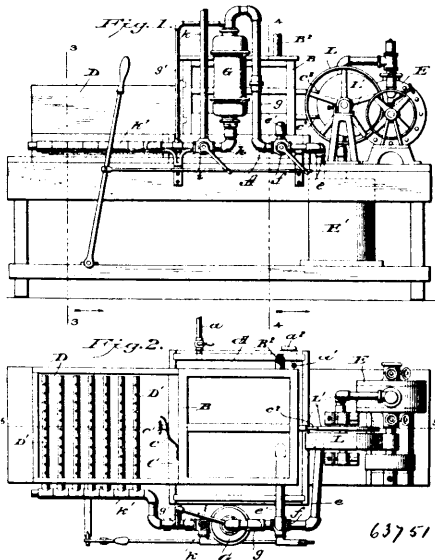


for carrying the roll of paper, mechanism for intermittently feeding the paper from the roll, a cutter for severing the paper into sheets, and mechanism for drawing the paper over the cutter during the intermittent stoppage of the first named mechanism and for delivering the severed sheet. 17th. In a paper cutting and delivering apparatus, the combination of a device for carrying a roll of paper, a cutter for severing the paper into sheets, mechanism between the roll and the cutter for intermittently feeding the paper from the roll, and mechanism for drawing the paper over the cutter to cut the same during the intermittent stoppage of the first named mechanism. 18th. In a paper cutting and delivering apparatus, the combination of a device for carrying a roll of paper, a cutter for severing the paper into sheets, mechanism between the roll and the cutter for intermittently feeding the paper from the roll, and mechanism for drawing the paper over the cutter to cut the same during the intermittent stoppage of the first named mechanism and for delivering the severed sheets.

No. 63,751. Process of and Apparatus for Etching Metal Plates. (*Procédé et appareil pour graver à l'eau forte des plaques métalliques.*)

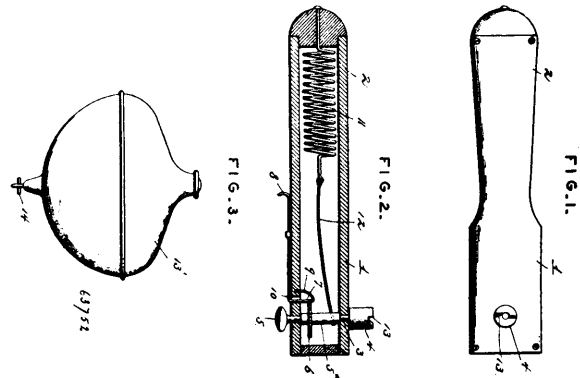


Max Levy, assignee of Louis Edward Levy, both of Philadelphia, Pennsylvania, U.S.A., 1st September, 1899; 6 years. (Filed 1st February, 1899.)

Claim.—1st. The process of etching metal plates, which consists in atomizing or spraying a mordant, by means of compressed air against the face of a plate having thereon the design through a resist, so that the dynamic force of the impact will accelerate the chemical action of the mordant, and the compressed air absorb the heat generated by the chemical action of the mordant, for the purpose set forth. 2nd. The process of etching metal plates, consisting in projecting by means of compressed air a mordant which is atomized upon a plate having thereon the design to be etched, the mordant being impacted in the form of atomized spray upon the plate at substantially right angles to its surface, so that the dynamic force of the impact will not effect the resist or design, and the heat evolved by the erosive action of the mordant will be absorbed by the expansion of the air, substantially as set forth. 3rd. The process of etching metal plates, consisting in projecting by means of compressed air a mordant in the form of atomized spray upon a plate maintained within a chamber, said plate having thereon the design to be etched, the mordant being impacted upon the plate at substantially right angles to its surface, so that the dynamic force of the impact will not affect the design, and the heat evolved by the erosive action of the mordant will be absorbed by the air which expands in the chamber, substantially as set forth. 4th. The process of etching metal plates, which consists in projecting a mordant in the form of spray from a plurality of atomizers upon the plate and moving the plate whilst under the action of the mordant. 5th. The process of etching metal plates by a mordant, which consists in atomizing or spraying the mordant upon the under surface of a prepared plate, reciprocating or otherwise moving the plate to change its position with respect to the atomizers, so that the chemical action and dynamic force of the impacted mordant will be equal over the surface of the plate. 6th. The process of etching metal plates by a mordant, which consists in projecting the mordant upward within a chamber upon the under surface of a plate maintained in the chamber so that the mordant will drop therefrom, without flowing, through a body of released compressed air employed to project the mordant and to absorb from it and the plate the heat evolved by the

chemical action of the mordant on the plate. 7th. The process of etching metal plates, consisting in applying to the plate a photographically prepared design and resist, subjecting it in a chamber to the action of a mordant which is impacted upon the plate by air under compression, the expansion of the air absorbing from the plate and mordant the heat evolved by the erosive action of the mordant in etching, and finally washing the plate, substantially as set forth. 8th. The process of etching metal plates by a mordant, which consists in atomizing the mordant against the under surface of the plate maintained in a horizontal position face downwards. 9th. The process of etching metal plates, which consists in projecting or spraying a mordant upward against a plate supported horizontally in a chamber or etching box. 10th. The process of etching metal plates by a mordant, which consists in projecting a mordant mechanically in comminuted form upward against the under surface of a plate having thereon a design, which plate is maintained face downward in a chamber, the mordant after impact upon the plate being permitted to fall therefrom into the body of the mordant from which it was taken. 11th. In an apparatus for etching, the combination with an etching box having means for maintaining a plate therein, of atomizers, a chamber for compressed air connected with the atomizers, and a tank for the mordant, for the purpose set forth. 12th. In an apparatus for the production of etchings, the combination with an etching box having means for sustaining horizontally therein a plate, a tank for the mordant, an air chamber within the etching box, and means for projecting the mordant upward against the plate. 13th. In an apparatus for the production of etchings, the combination with an etching box having slides for supporting a plate, openings for introducing the slide to the etching box, and means for reciprocating the slide, of a tank or receptacle for the mordant, a plurality of devices within the etching box for atomizing or spraying the mordant upward, said devices being arranged at uniform distances apart, and means for conveying air under pressure thereto, substantially as shown. 14th. In an apparatus for etching, the combination of an etching box, a plate support, atomizers for projecting a mordant upon the plate and means for moving the plate support to change its position and the position of the plate or plates carried thereby with respect to the atomizers. 15th. In an apparatus for etching, the combination with an etching box and means for projecting a mordant upon a plate positioned therein, of a washing compartment having means for projecting a fluid, and a plate carrier which is movable from the etching box into the washing compartment, substantially as shown. 16th. In an apparatus for etching, the combination of a tank containing compressed air, an etching box or chamber having therein a plurality of atomizers, means for atomizing a mordant by air under compression, so that the mordant will be impacted upon the plate in the form of comminuted spray and means for supporting and moving the plate in the etching box, for the purpose set forth. 17th. In an etching apparatus, an etching box having an air chamber with atomizers, a tank adapted to contain a mordant which surrounds the atomizers, means for compressing air and supplying it through the air chamber to the atomizers, a plate carrying slide reciprocally mounted within the etching box and removable therefrom, a water tank in communication with a water supply and with the air compressor, a washing compartment having therein a series of perforated pipes, and cocks for controlling the air and water supply, the parts being organized for co-operation, substantially as shown and for the purpose set forth.

No. 63,752. Top Spinner. (*Appareil à faire tourner les toupies.*)



Mary K. Zapt, assignee of Stephen G. Warren, both of Attica, New York, U.S.A., 1st September, 1899; 6 years. (Filed 31st January, 1899.)

Claim.—In a top spinner, a casing or hollow handle, a rotatable shaft having a notched head and winding key extending laterally through the casing, a toothed wheel and drum upon said shaft within the casing, a cord connected with said winding drum, a spring connected with said cord, a trigger extending through a slot in the casing of said spinner and provided with a handle, and a spring connected with said trigger and serving to hold the trigger normally in engagement in said toothed wheel.