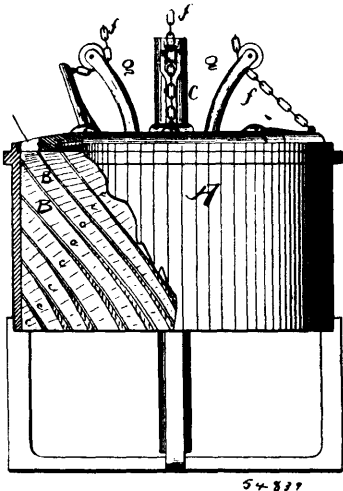


tially as set forth. 2nd. A hollow wheel containing means for elevating particles, and an outwardly flaring flexible flange arranged at the open side of said wheel, substantially as set forth. 3rd. In a street sweeping machine, a frame, a hollow, bucketed wheel journaled thereto, a brush mounted in trailers depending from the frame, said brush being arranged to sweep particles into the said wheel, and an apron in advance of said brush, having one side edge continuous with said wheel, to confine the sweepings, together with a flexible, triangular piece connected to said apron, to cover the space, bounded by the wheel, apron, and roadway, substantially as set forth. 4th. In a street sweeping machine, in combination, a frame, a hollow wheel journaled thereto, said wheel containing buckets to receive sweepings, a receptacle supported by the frame adjacent to said hollow wheel, and a chute to convey sweepings from the interior of said wheel to said receptacle, together with a shield arranged at either side of said chute, beneath the upper buckets, substantially as set forth.

**No. 54,838. Turbine. (Turbine.)**

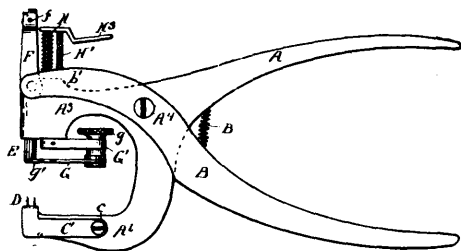


James Caldwell and Emory Caldwell, both of Auburn, New York, U.S.A., 3rd February, 1897; 6 years. (Filed 1st December, 1896.)

**Claim.**—A turbine water wheel, comprising a drum having spiral buckets thereon, a case enclosing the same, having openings at the bottom and a multitude of gates at the top, and means for operating them separately for the purpose of limiting or modifying the power, as set forth.

**No. 54,839. Button-setting Implement.**

(Appareil à assujétir les boutons.)



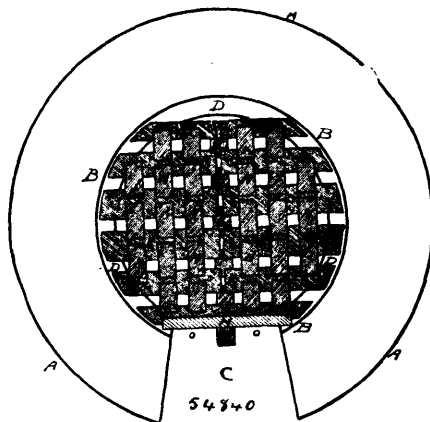
The McKenney Button Fastening Company, assignee of F. S. McKenney and Frank R. Welton, all of Detroit, Michigan, U.S.A., 3rd February, 1897; 6 years. (Filed 1896.)

**Claim.**—1st. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$ ,  $A^3$ , and an operating handle, a lever B fulcrumed to said handle and itself provided with an operating handle, a die spindle having a reciprocatory movement through the forward end of the arm  $A^3$  and connected with the forward end of the operating lever, a button-holding device, an additional spindle carrying said button-holding device at its lower end and having a reciprocatory movement through the forward end of the arm  $A^3$ , said button-holding device made reciprocatory independently of the reciprocation of the die spindle, and said arm  $A^3$  provided with a seat for a fastening, substantially as set forth. 2nd. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$  and  $A^3$ , one of which arms is provided with a seat for a fastening, clamps to hold a fastening upon the seat, said clamps being vertically reciprocatory and laterally movable, a die spindle sleeved through the forward extremity of the arm  $A^3$ , a graduated button-holding device, a reciprocatory spindle carried by the arm  $A^3$  supporting said button-holding device, said device made adjust-

able to hold different sizes of buttons, and an operating lever fulcrumed to said jaw to reciprocate the die spindle, substantially as set forth. 3rd. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$ ,  $A^3$ , and an operating handle, a die spindle sleeved through the forward end of the arm  $A^2$ , an operating lever to reciprocate the die spindle, fulcrumed to said handle and itself provided with an operating handle, an additional spindle sleeved through the forward end of the arm  $A^3$ , an arm  $G^1$  carried by the last-named spindle, and a button-holding device having an adjustable engagement with the arm  $G^1$ , substantially as set forth. 4th. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$ ,  $A^3$ , a die spindle sleeved through the arm  $A^2$ , an operating lever fulcrumed to said jaw, a yoke connecting the upper extremity of the die spindle to the said lever, spindles H,  $H^1$  sleeved through the arm  $A^3$ , an arm  $G^1$  carried by the spindles H,  $H^1$ , a button-holding plate G having an adjustable engagement with the arm  $G^1$ , substantially as set forth. 5th. In a hand button-setting implement, the combination of a jaw A provided with a handle and having at one end thereof arms  $A^2$ ,  $A^3$ , a die spindle reciprocating through the arm  $A^3$ , a spindle H having a reciprocatory engagement with the arm  $A^3$ , an adjustable button-holding device carried by said latter spindle provided with means to hold various sizes and kinds of ordinary commercial buttons, and an operating lever fulcrumed to said jaw and provided with a handle adjacent to the handle of said jaw to reciprocate the die spindle, substantially as set forth. 6th. In a hand button-setting implement, the combination of a jaw A provided with arms  $A^2$ ,  $A^3$ , a die spindle sleeved through the arm  $A^3$ , an operating lever fulcrumed to said jaw to reciprocate the die spindle, a reciprocatory button-holding plate carried by the arm  $A^3$ , said plate formed with graduated button-holding recesses and with a device to hold a shank button, substantially as set forth. 7th. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$ ,  $A^3$ , a reciprocatory die spindle, an operating lever fulcrumed to said jaw to reciprocate said spindle, one of said arms provided with an adjustable device having a series of seats for different sizes of fastenings, substantially as set forth. 8th. In a hand button-setting implement, the combination of a jaw provided with arms  $A^2$ ,  $A^3$ , a reciprocatory die spindle, an operating lever fulcrumed to the jaw to reciprocate said spindle, spindles H,  $H^1$  sleeved through the arm  $A^3$ , a button-holding device carried by the spindles H,  $H^1$ , and a pressure arm  $H^3$  to reciprocate the spindles H,  $H^1$ , substantially as set forth. 9th. In a hand button-setting implement, the combination of a jaw A, a reciprocatory die spindle sleeved through said jaw, an operating lever to reciprocate the die spindle, and an adjustable button-holding device having a reciprocatory engagement with the jaw, the button-holding device made reciprocatory with the reciprocation of the die spindle and independently thereof, substantially as set forth. 10th. In a hand button-setting implement, the combination of a jaw, a reciprocatory die spindle sleeved through said jaw, an operating lever to reciprocate said spindle, a reciprocatory arm  $G^1$  carried by said jaw, and a button-holding device having a vertically and laterally movable engagement with the arm  $G^1$ , substantially as set forth.

**No. 54,840. Art of Making Lime.**

(Art de faire de la chaux.)



Carl Rübel, Louth, Ontario, Canada, 3rd February, 1897; 6 years. (Filed 11th December, 1896.)

**Claim.**—1st. The mode of building and filling the kiln and burning the lime above set forth. 2nd. The iron or stone grate made from and by the placing of upright stones E, the flat stones or pieces of iron K, from upright stones E, to ledge D, and flat cross stones or pieces of iron N, and the whole in combination. 3rd. The large flat stone H covering the eye C, and the two in combination. 4th. The widening of the kiln from bottom to top. 5th. The flat stones and mortar or sheet iron top covering the kiln. 6th. The placing of layers of coal and limestone in alternate layers from bottom to top.