

connecting them from the oscillatory shaft, a series of banks of keys, one bank for each segment and co-operating with the latch thereof to disconnect the segment from the oscillatory shaft at different points, according to the key which is operated, a series of indicator wheels, one for each bank of keys and its associated segment and geared to the latter, a series of type wheels, one corresponding to each indicator wheel and moving in unison therewith, and a printer co-operating with the type wheels and actuated by the revoluble shaft. 5th. In a registering machine, the combination of a main actuator, a driving mechanism therefor capable of connection therewith and disconnection therefrom, a series of keys whose relative positions determine the different points at which the actuators shall be disconnected from the driving mechanism, an indicator wheel driven by the actuator, and a lock actuated by the driving mechanism at the beginning of its movement to lock the unoperated keys while the indicator wheel is being moved to indicate the value of the operated key. 6th. In a registering machine, the combination of a revoluble shaft and a handle for operating the same, an oscillatory shaft actuated by the revoluble shaft, an actuator capable of connection with and disconnection from the oscillatory shaft, a series of keys whose relative positions determine the different points at which the actuator shall be disconnected from the oscillatory shaft, and a lock applied to the revoluble shaft to lock the same and its operating handle from movement, and actuated by the keys to release the shaft and handle whenever any key is operated. 7th. In a registering machine, the combination of the gear toothed segment J, the latch N, pivoted thereto and provided with the recess *b*, and shoulder *c*, the arm Q, the oscillating cam Z, co-operating with the arm Q, and the lug Z¹, co-operating with the recess *b*, and shoulder *c*, and the keys V, co-operating with the outer end of the arm N, to disconnect the latter from the lug Z¹. 8th. In a registering machine, the combination of a gear toothed segment J, the latch arm N, pivoted thereto and provided with the recess *a*, and *b*, and shoulder *c*, the cam Q, oscillating cam Z, co-operating with the cam Q, and the lug Z¹, co-operating with the recess *b*, and shoulder *c*, the keys V, co-operating with the recess *a*, in the outer end of the arm N, to disconnect the latter from the lug Z¹, the detent plate U, and the plate S, co-operating with the plate U, and provided with the lug R, co-operating with the arm Q, to hold the arm N, out of engagement with the lug Z¹, when no key of the series has been operated. 9th. In a registering machine, the combination of a gear toothed segment J, the latch arm N, pivoted thereto and provided with the recess *a*, and *b*, and shoulder *c*, the cam Q, the oscillating cam Z, co-operating with the cam Q, and the lug Z¹, co-operating with the recess *b*, and shoulder *c*, the keys V, co-operating with the recess *a*, in the outer end of the arm N, to disconnect the latter from the lug Z¹, the detent plate U, provided with the tooth Y, and sliding plate S, having a notch co-operating with the tooth Y, and provided with the lug R, co-operating with the arm Q, and also with a lug A¹ on the cam Z, and the arm Z² rigid with the cam Z, and arranged to move the detent plate U, at the completion of the forward stroke of the cam Z, to release the operated key. 10th. In a registering machine, the combination, of the revoluble shaft B, having fast upon it a gear D, meshing with the gear C, and also a crank F, the oscillating shaft I, having fast upon it the arm H, the pitman C, connecting the crank F with the arm H, the segments J, loosely mounted on the shaft I, the latches for connecting the segments with and disconnecting them from the shaft I, the series of banks of keys V co-operating with the latches, the indicator wheels M, geared to the segments J, the type wheels driven by the segments J, and moving with the wheels M, the printer F¹ co-operating with the type wheels, and actuated by a cam H¹, fast upon the revoluble shaft E, and the registering wheels driven by the segments J, to register the values indicated by the registering wheels M. 11th. In a registering machine, the combination, of the cam disk B², revoluble with the operating handle A, the series of banks of keys V, the detent plates U, the rock shaft B¹, having fast thereon the arms C¹, co-operating with the lugs C², upon the detent plates U, and the arm B², fast upon the rock shaft B¹, and co-operating with the disk B², to alternately lock and release the operating handle and the detent plates in the manner described. 12th. In a registering machine, the combination, of the type wheels, the printer, the ticket receptacle containing the supply of tickets, and the feed wheel having a portion of its circumference toothed or roughened, and a portion cut away or left smooth, to intermittently feed the tickets from the receptacle to the printing point. 13th. In a registering machine, the combination, of the type wheels having the toothed locking wheels H¹ rigid therewith, the locking frame H² co-operating with the wheels H¹, and the revoluble cam H⁴, for operating the locking frame H². 14th. In a registering machine, the combination, of the drawer locking bolt I¹, lever I³, rod I⁴, and the revoluble shaft E, having fast upon it the cam I², co-operating with the rod I⁴. 15th. In a registering machine, the combination, of the main actuator, an indicator driven thereby, a driving mechanism for the actuator capable of connection therewith and disconnection therefrom, a series of keys whose relative positions determine the different points at which the actuator shall be disconnected from the driving mechanism, each of said keys being provided with a detaining notch or shoulder, a detent plate co-operating with the series of keys, and a lock for the driving mechanism released by the detent plate only when the detaining notch or shoulder of an

operated key has been engaged with its co-operating dent on said plate. 16th. In a registering machine, the combination of a primary wheel provided with a cam L², the sliding bar L⁷, provided with lugs L⁶ and L¹⁰, and carrying the pawl L⁸, engaging the ratchet L⁴ of the secondary wheel, and the revoluble cam L⁹, co-operating with the lug L¹⁰, substantially as described. 17th. In a registering machine, the combination of a primary wheel provided with a cam L², a revoluble shaft E provided with a cam L², a sliding pawl L⁷ provided with a lug L⁶, co-operating with cam L² and a lug L¹⁰, co-operating with cam L⁹, and carrying a pawl L⁸, engaging the ratchet L⁴ of the secondary wheel and a spring L¹¹, engaging the bar L⁷ to yieldingly hold it in the positions to which it is moved by the cam L² and L⁹, substantially as described. 18th. In a registering machine, the combination of the type wheels and the printer co-operating therewith, of the ribbon spools actuated by the movements of the printer, and means for automatically reversing the direction of movement of said spools, for the purpose described. 19th. In a registering machine, the combination with the type wheels and the printer co-operating therewith, of the spools carrying the inking ribbon, each provided with a ratchet, an actuating pawl for each ratchet, and means for automatically disengaging one pawl from its ratchet, and engaging the other pawl with its ratchet, to reverse the direction of movement of the inking ribbon, substantially as described. 20th. In a registering machine, the combination with the type wheels and the printer co-operating therewith, of the spools carrying the inking ribbon each provided with a ratchet, an actuating pawl for each ratchet carried by the printer, and the longitudinally movable threaded shafts, upon which the spools are mounted, provided with arms arranged to disengage the pawl from the ratchet, substantially as described. 21st. In a registering machine, the combination with the type wheels and the printer co-operating therewith, of the spools carrying the inking ribbon, each provided with a ratchet, an actuating pawl for each ratchet and the longitudinally movable threaded shafts upon which the spools are mounted, said shafts being free to slide through the spools but revolving with the spools, and provided with arms to disengage the pawls from the ratchets, substantially as described.

No. 41,816. Car Coupler. (*Attelage de chars.*)

Thaddeus B. Brower and Freeman W. White, both of Paso Robles, California, U.S.A., 4th February, 1893; 6 years.

Claim.—1st. In a car coupling, the combination of a draw head having an opening, a coupling pin, a pin lifter pivotally mounted and having its front end attached to the coupling pin, means for raising the pin lifter, a catch to hold the pin lifter elevated, and a link carrier having an inclined surface to engage and to direct the link and provided with a lug arranged to engage the catch to release a coupling pin, substantially as described. 2nd. In a car coupling, the combination of a draw head, a coupling pin, a pivotally mounted pin lifter connected with the coupling pin and provided with a shoulder, a catch consisting of a rock shaft provided with an arm to engage the shoulder and having a depending extension, and a link carrier having an inclined face to direct a link and provided with a laterally extending lug to engage the depending extension of the catch, substantially as described.

No. 41,817. Machine for Sawing Stave Bolts.

(*Machine pour scier les chevilles des douves.*)

Robert Aldred and Robert H. Tunks, both of (Glencoe, Ontario, Canada, 4th February, 1893; 6 years.

Claim.—1st. The adjustable sash or saw frame H, in combination with the saw K, and saw mandrel F, substantially as and for the purpose specified. 2nd. In a stave bolt sawing machine, the grooved standards B, B, and pulley G, (G, and weights C, C, and dogs I, I, substantially as and for the purpose specified.

No. 41,818. Apparatus for Treating Refuse.

(*Appareil de traitement des rebuts.*)

Richard Cunliffe and Edward Barlow, both of Manchester, Lancaster, England, 4th February, 1893; 6 years.

Claim.—1st. The continuous and automatic process of drying or calcining substances or materials of the nature described, consisting in extracting the liquid portion thereof or reducing the same previous to being subjected to heat, discharging the treated substance or material whilst the hot gases are withdrawn, condensing and the more volatile portion thereof burnt, substantially as set forth. 2nd. In apparatus for drying or calcining substances or materials of the nature described, the cylinder or retort *h*, arranged to rotate on pulleys *h*², inside a covering *g*, in combination with a hollow knife edged feed screw *k*, arranged to rotate inside a casing *k*¹, furnished with a hopper *f*, the inner end of which feed screw *k*, is in communication with the inlet end of the cylinder or retort *h*, and the outer end by means of a pipe *l*², and chimney *l*¹, with the space *l*³, between the exterior of the cylinder or retort *h*, and the interior of the covering *g*, substantially as and for the purpose specified. 3rd. The cylinder or retort *h*, specified in the preceding claim, in combination with a discharge and condensing chamber *p*, arranged in communication with the outlet end of the cylinder or retort *h*, and an exhaust fan *s*, or steam jet and cone *t*, *t*¹, the discharge portion of the chamber *p*, being furnished with a weighted door *p*², and the condensing part