openings of the plates, a coiled spring mounted in the bore of the block and connected at its ends to the pawls, a bolt mounted in the groove and having its ends inwardly bent into continuations of the grooves formed in the sides of the block and provided at its center with a rearwardly-disposed bend or offset, and a key journaled in bearings disposed at a right angle to the bolt, terminating at its outer end in a head, and provided below the same with a lateral offset or bend for engaging that of the bolt, said offset of the bolt being provided upon its inner sides and at each side of its bend with shallow depressions for engaging the end of the offset of the key, substantially as specified.

No. 37,908. Lock. *(Serrure.)*

Henry Platz, Rogers City, Michigan, U.S.A., 4th December, 1891; 5 years.

Claim.—1st. In a lock, the combination with the casing, having key-holes upon opposite sides thereof, of transverse guide rods upon both sides of said holes, and a guard plate slidingly secured on said rods in the path of the key, substantially as described. 2nd. In a lock, the combination with the casing having holes upon opposite sides, the guide flanges K, formed on the interior of the casing, the guide rods N, the plate J, the guide bearing M, formed therein and the head K, on said plate, substantially as described. 3rd. In a lock, the combination with the bolt, having pins formed integral therewith of the arm H, and the latch B, having the shoulder G, adapted to operate, substantially as and for the purpose described.

No. 37,909. Currycomb. *(Etrille.)*

George W. Neuls, Kane, Pennsylvania, U.S.A., 4th December, 1891; 5 years.

Claim.—1st. As an improved article of manufacture, a currycomb the body and the teeth of which are constructed of wood, substantially as described. 2nd. A currycomb the body and comb sections whereof are constructed of wood and constitute integral portions of the comb, as and for the purpose specified. 3rd. A currycomb the body and comb portions whereof are constructed of wood, the teeth of the comb having their lower ends beveled at their sides in direction of the center, as and for the purpose specified. 4th. A currycomb the body and comb sections whereof are constructed of wood, the outer teeth having curved outer edges and pointed lower extremities and the intermediate teeth being straight and pointed at their extremities, as and for the purpose specified. 5th. A currycomb the body and comb sections whereof are constructed of wood, and the body section being provided with buffers at opposite sides, substantially as described. 6th. A currycomb the body and teeth of which are constructed of wood, and the body being provided in its upper face with a dove-tail channel to receive a handle, as and for the purpose set forth. 7th. In a currycomb, the combination, with a body of wood, the said body being provided with an integral comb section also of wood, the said comb section forming a portion of its under face, the body also being provided with a dove-tail channel in its upper face, of a handle having a foot section provided with a dove-tail rib adapted to enter the dove-tail channel or recess in the body of the comb, as and for the purpose specified. 8th. In a currycomb, the combination, with a body portion of wood and a comb section comprising a series of teeth and also made of wood, the extremities of the teeth being beveled from their sides to their centers, and the said body being also provided upon its upper face with a dove-tail channel and buffing surfaces of elastic material at opposite side edges, of a handle the lower portion of which is provided with a rib dove-tail in cross section and adapted to enter and to be secured within the dove-tail recess of the body, as and for the purpose set forth.

No. 37,910. Steam Actuated Valve for Steam Engines and Pumps. *(Valve actionnée par la vapeur pour machines et pompes à vapeur.)*

Benjamin Raymond Patten, Yarmouth, Nova Scotia, Canada, 4th December, 1891; 5 years.

Claim.—1st. In a steam actuated valve, the combination with the cylinder A, having piston B, rod C, steam ports S, S, exhaust E^1, and D, valve H, of the cylinder G, having pistons J, J, connected to each other and to the said valve H, by the two arms I, and bridge *i*, the pillar T, steam inlet V, steam space *k*, the steam chest L, connected with the said steam space *k*, auxiliary valve N, valve stem O, collars P, arms R, steam ports *s*, *s*, connected with the spaces *g*, *g*, and exhaust *e*, substantially as set forth. 2nd. In a steam actuated valve the combination with the main valve H, of the pistons J, J, suitably secured to the said valve H, the cylinder G, steam ports *s*, *s*, and exhaust ports *e*, steam chest L, and auxiliary valve N, substantially as set forth. 3rd. In a steam actuated valve, the combination with the steam actuated valve H, in the cylinder G, and piston J, J, connected by the bridge *i*, of the pillar T, arms R, secured to the stem O, substantially as and for the purpose set forth. 4th. In a steam actuated valve, the combination with the auxiliary valve N, having exhaust chamber *u*, and lugs *o*, of the collars P, valve stem O, and arms R, formed integrally with the said collars P, substantially as set forth.

No. 37,911. Rail Joint. *(Joint de rail.)*

Louis Dubé and Luke Messier, both of Albany, New York, U.S.A., 4th December, 1891; 5 years.

Claim.—1st. In a rail joint, the combination, with a bolt, of a key provided at or near its tail end with a detent, and a contiguous retaining surface for engaging the detent, all substantially as described. 2nd. In a key for a rail joint, consisting of a wedge shaped body portion having a detent as *d*, near its rear end, and a tail as d^1, substantially as described. 3rd. In a rail joint, the combination with a bolt, of a key provided with a retaining surface for engaging the detent, all substantially as described. 4th. In a rail joint, the combination, with bolts, of a separate key for each bolt, said key having a detent, a fish plate, and a locking plate provided with serrations for engaging the detent of the key, all substantially as described. 5th. In a rail joint, the combination with a bolt of a key provided with a detent, a fish plate, and a locking plate provided with an oblique series of serrations, all substantially as described. 6th. A rail joint comprising the following combination two abutting rails, two connecting fish plates, a number of bolts passing through perforations in the webs of the rails and the fish plates, obliquely set retaining keys provided with detents one key for each bolt, and contiguous oblique retaining surfaces for engaging the detents, all substantially as set forth. 7th. In a rail joint, the combination of a bolt and a key having an inclined or wedge shaped portion and a detent at or near its butt-end, substantially as described. 8th. A driving tool consisting of a stem or main body portion provided with a recess at its head formed by two cheeks, a bottom shoulder and an upright driving shoulder, all substantially as described. 9th. A driving tool consisting of a stem or main body portion provided at its head with an upright driving shoulder and a bottom wedge shaped shoulder, all substantially as described.

No. 37,912. Sliding Shell Pump. *(Garniture à coulisse de pompe.)*

John Glasford, Hamilton, Ontario, Canada, 4th December, 1891; 5 years.

Claim.—1st. In a sliding shell double acting pump the rigid tubes A, A, each having at their lower ends the check valves B, and at their upper ends the branch C, with pipe D, and the lugs O, in combination with the sliding shells F, with their check valves G, the lugs I, and the forked connecting rods H, with rods K, substantially as and for the purpose hereinbefore set forth. 2nd. The combination in a sliding shell double acting pump with the tubes A, and valves B, the branch C, the pipe D, the lugs O, the shells F, the valves G, the lugs I, the forked connecting rods H, the connecting rods K, the oscillating shaft L, the cranks J, framework M, and the pendulum N, substantially as and for the purpose hereinbefore set forth.

No. 37,913. Apparatus for Discharging Steam Condensation. *(Appareil de décharge de vapeur condensée.)*

George Walker, Levis, and Michael Hurly, Quebec, both in the Province of Quebec, Canada, 4th December, 1891; 5 years.

Claim.—1st. The combination of a part of an interchangeable steam link B, secured to the end of a flexible tube at the end of a railway carriage, a part of an interchangeable steam link B^1, secured to a regulating valve, the regulating valve C, having a part of an interchangeable steam link attached to the inlet end and a tube to the exit end, the discharge tube D, secured to said valve and provided with an elbow, the collar D^{11}, secured to said tube and a suspending chain E, fastened to said collar to the end of the carriage, substantially as set forth. 2nd. The combination of a part of an interchangeable steam link B^1, secured to a valve, the regulating valve C, having a part of an interchangeable steam link secured to the inlet and a pipe to the exit nipple, the pipe D, secured to the exit nipple of the valve and having an elbow at the other, a collar with eye secured to said pipe and the suspending chain E, secured to said collar, substantially as set forth.

No. 37,914. Process of and Apparatus for Manufacturing Gas. *(Procédé et appareil de fabrication du gaz.)*

Burdett Loomis, Hartford, Connecticut, U.S.A., 4th December, 1891; 5 years.

Claim.—1st. The process of manufacturing gas which consists in heating a body of fuel to incandescence by drafts of air drawn downward into the fuel and by drawing off the gaseous products by an exhauster, whereby the fuel may be better fed, inspected and arranged in the generator during the operation of heating up, then shutting off the air draft and decomposing steam in contact with the fuel, thereby producing water-gas. 2nd. The process of manufacturing gas which consists in heating a body of fuel to incandescence by downward drafts of air, and by means of the resulting gaseous products heating a superheating-chamber and drawing off the products by an exhauster, whereby the furnace may be charged and cleaned during the operation of the exhauster, then shutting off the air drafts and superheating steam by passage through the superheating-chamber and decomposing it by passage through the incandescent fuel, thereby producing water-gas. 3rd. The process of producing fixed combustible gas which consists in forming a bed of incandescent fuel in a generating-chamber, supplying fresh fuel at suitable intervals to the top of said bed of fuel, admitting atmospheric air to the generating-chamber above the fuel and drawing or exhausting it downward into said fuel, drawing or exhausting the oily and tarry vapors and products of combustion down into and through the incandescent fuel, and drawing or exhausting the resulting fixed gaseous products out of the generating-chamber at or near its bottom, as described. 4th. In combination with a gas generating cupola or furnace, and air-supply pipe or opening connecting with the top above the fuel, means for controlling the supply of air through such pipe or opening, and an outlet for gaseous products leading from the bottom, and an exhauster connecting with such outlet-pipe for drawing off gaseous products from the bottom of the generator, as described. 5th. In combination with the gas-generating furnace, a tubular air-heater and gas-cooler having an air-inlet and pipe connecting it with the top of the generator, and exhaust-pipe for gaseous products leading from the bottom of the generator and connecting with the tubes of the heater, and a connected ex-