

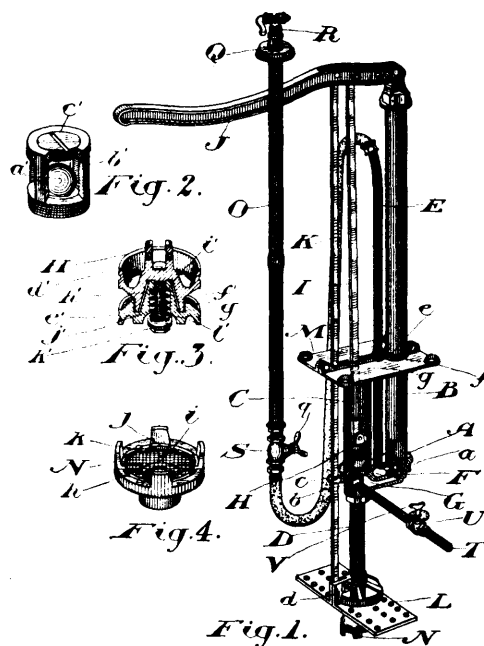
operating said locking device to release said actuating lever, substantially as described. 7th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, a detent for locking it after each movement, toggle levers connected with said detents for operating them to release the striking arm, an actuating lever for operating said toggle levers, a locking device for said actuating lever, a toothed wheel driven by a train for operating said locking device to release said actuating lever, a let off for said train and means for positively moving it in both directions to start and stop the train at will, substantially as described. 8th. In a bell striker, a striking arm, means for operating it, a train-controlled locking mechanism for said striking arm, a let-off for said train-controlled locking mechanism, a polarized electro-magnet for operating said let-off, a generator for the circuit of said polarized electro-magnet and a pole changing switch, substantially as described. 9th. In a bell striker, a striking arm, means for operating it, locking mechanism for said striking arm, a timing device controlling said locking mechanism, a let-off for said timing device, a polarized electro-magnet for operating said let-off, a generator for the circuit of said polarized electro-magnet and a pole-changing switch, substantially as described. 10th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, a detent for locking it after each movement, train-controlled mechanism for operating said detents at predetermined times to release the striking arm, a let-off for said train, a polarized electro-magnet for operating it, a generator for the circuit of said polarized electro-magnet and a pole changing switch, substantially as described. 11th. In a bell striker, a striking arm, means for operating it, a detent for locking said striking arm, an actuating lever therefor, a locking device for said actuating lever, a train for operating said locking device to release said actuating lever, a let-off for said train, a polarized electro-magnet for operating it, a generator for the circuit of said polarized electro-magnet and a pole changing switch, substantially as described. 12th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, detents  $c, c^1$ , one or the other of which locks it after each movement, a spring actuated lever connected with and adapted to operate said detents to release the striking arm, a locking device for said spring actuated lever and means for operating said locking device to release said spring actuated lever, substantially as described. 13th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, detents  $c, c^1$ , one or the other of which locks it after each movement, an actuating lever connected with and adapted to operate said detents to release the striking arm, a locking device for said actuating lever, means for operating it to release said actuating lever, an arm  $o$  connected with and operated by the striking arm for engaging a co-operative part of the detent actuating mechanism when moving in both directions to return said actuating lever into engagement with its locking device, substantially as described. 14th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, detents  $c, c^1$ , one or the other of which locks it after each movement, an actuating lever connected with and adapted to operate said detents to release the striking arm, a locking device for said actuating lever, means for operating it to release said actuating lever, the toggle joint  $o^2, o^3$  connected with and operated by said striking arm, the pivoted arm  $o$  operated by said toggle joint to engage a co-operative part of the detent actuating mechanism when moving in both directions to return said actuating lever into engagement with its locking device and return said detents to locking position, substantially as described. 15th. In a bell striker, a striking arm, means for moving it positively in each direction to strike a blow, detents  $c, c^1$ , one or the other of which locks it after each movement, an actuating lever connected with and adapted to operate said detents to release the striking arm, a locking device for said actuating lever, a train for operating it, the arm  $o$  connected with and operated by the striking arm for winding up the motive power of said train, substantially as described. 16th. In a bell striker, a bell having its oscillating hammer contained within it and pivoted adjacent the crown of the bell, the short arm  $a^4$  and the longitudinally reciprocating rod  $a^5$  connected at one end to said short arm  $a^4$  the vibrating arm  $a^6$  to which the opposite end to said rod  $a^5$  is connected, the rocking cradle  $a^7$  bearing said arm  $a^6$ , pawls carried by said cradle, and a power propelled ratchet wheel for operating said pawls to rock said cradle, substantially as described. 17th. In a bell striker, a bell having its oscillating hammer contained within it and pivoted adjacent the crown of the bell, the short arm  $a^4$  and the longitudinally reciprocating rod  $a^5$  connected at one end to said short arm  $a^4$ , the vibrating arm  $a^6$  to which the opposite end of said rod  $a^5$  is connected, the rocking cradle  $a^7$  bearing said arm  $a^6$ , pawls carried by said cradle, and a power propelled ratchet wheel for operating said pawls to rock the cradle, the balancing spring  $b$  for the bell hammer, a bell crank lever, one arm of which is connected to said spring and the other arm  $b^4$  of which is connected by a toggle joint with said cradle, substantially as described.

# **No. 66,862. Spray Pump. (Pompe à jet d'eau.)**

William Henry Heard, London, Ontario, Canada, 31st March, 1900; 6 years. (Filed 21st October, 1899.) NOTE.—Patent No. 66,862 is a re-issue of Patent No. 60,601, dated 15th July 1898.

**Claim.**—1st. In a pump, a base casting having two passages formed therein, in combination with a plunger tube and suction

tube connecting with one passage, an air chamber and a discharge pipe connecting with the other passage, a valve between the two



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passages, a valve between the first-mentioned passage and the opening of the suction pipe, and a small pipe communicating with the said passage, substantially as and for the purpose specified. 2nd. In a pump, a base casting having two passages formed therein, in combination with a plunger tube and suction tube connecting with one passage, an air chamber and a discharge pipe connecting with the other passage, a valve between the two passages, a valve between the first-mentioned passage and the opening of the suction pipe, a small pipe communicating with the said passage, and a regulating valve in the said pipe, substantially as and for the purpose specified. 3rd. The combination with a valve adapted to close the inlet pipe and a valve closing the outlet through which liquid is forced to the discharge, of a pipe communicating with the interior of the pump between said valves and a regulating valve adapted to control the admission of liquid through the said pipe, substantially as and for the purpose specified. 4th. A pump provided with a suction tube and a valve closing the said tube thereof, in combination with a small tube opening into the pump above the said valve, and a regulating valve in the said tube, substantially as and for the purpose specified. 5th. In a pump, a base casting, two lugs formed thereon, a suction tube and an air chamber connected thereto, in combination with a pump handle pivoted upon the air chamber, an agitator sleeved upon the said suction pipe, and a rod connected with the said agitator, pivoted to the said handle and passing between the aforesaid lugs, substantially as and for the purpose specified. 6th. In a pump, a valve cage externally screw-threaded and having a seat in its lower portion closed by a ball, in combination with a plug closing an opening in the top of the cage, and provided with a seat similar to the aforesaid seat, substantially as and for the purpose specified. 7th. In a pump, a base casting having two passages formed therein, in combination with a plunger tube connecting with one passage, an air chamber and a discharge pipe connecting with the other passage, a valve between the two passages, and a valve between the first-mentioned passage and the opening of the suction pipe, each valve comprising a cage screwed into a suitable opening and having an opening in its lower portion closed by a ball valve, and a screw plug closing an opening in the top of the cage, substantially as and for the purpose specified. 8th. In a pump, the suction tube D, in combination with the strainer N, provided with the ribs  $i$ , wire gauze  $h$ , lugs  $j$  and bent wire  $k$ , substantially as and for the purpose specified. 9th. In a pump, the suction tube D, in combination with the strainer N, provided with the wire gauze  $h$ , lugs  $j$ , and bent wire  $k$ , substantially as and for the purpose specified. 10th. In a pump, an agitator sleeved upon the suction tube and partly split, in combination with an agitator rod having its end inserted between the parts, and a clamping bolt adapted to clasp the parts together, substantially as and for the purpose specified. 11th. In a pump, and in combination with the discharge pipe thereof, a valve normally held closed by spring pressure, in combination with a cam pivoted to the end of the spindle and bearing against the end of the valve mounting, and two lever handles connected to the said cam, substantially as and for the purpose specified. 12th.