

ting lever returns to have its dog take a fresh hold on the wire, and a support for said second dog, or pawl, all combined and operating substantially as and for the purposes hereinbefore set forth. 5th. In a button setting machine, oscillating lever *c* provided with the dog, or pawl *f*, and its support, a guide *g* for the wire, oscillating lever *h*, provided with the bifurcation *i* and saddle strip *o*, all combined and operating substantially as and for the purposes hereinbefore set forth. 6th. In a button setting machine, a button hopper, walls or plates *q*, a revoluble disc *r*, provided with the holes, or apertures *p*, and raceway *t*, all combined and operating substantially as and for the purposes hereinbefore set forth. 7th. In a button setting machine, a button hopper, a button raceway lever *h*, and oscillating lever *h*, provided with the cam piece *d*, all combined, arranged and operating substantially as and for the purposes hereinbefore set forth. 8th. In a button setting machine, a support for the work, a guide and support for the button, and wire loop, or staple, in the eye of the same, a clenching anvil provided with slots having curved bottoms for receiving the prongs of the loop, or staple, to clench the same, and an eye or slot extending transversely of the first mentioned slots to guide a cord, or wire, around which the prongs of the staples may be clunched, and a reciprocating slide adapted to engage the upper end of the staple on both sides of the button eye and drive said staple, all constructed, combined and operating substantially as and for the purposes hereinbefore set forth. 9th. In a button setting machine, the saddle strip *o*, stop-gate *q*, provided with the projection *e*, spring *d*, and reciprocating slide *s*, provided with the horn *az*, whereby the staple in a button is driven, and the stop-gate may be operated to admit another button and its attached staple to position to be operated upon, all combined and operating substantially as and for the purposes hereinbefore set forth. 10th. The frame *f*, provided with the guide slots *e*, *z*, having slightly inclined sides, and the button supporting and guiding plate *h*, provided with the aperture *q*, and slot *i*, constructed, arranged and combined substantially as and for the purposes hereinbefore set forth. 11th. A vertically movable work-supporting horn, a guide therefor, a lever *z* fulcrumed on the bed of the machine and loosely connected at one end with said work-supporting horn for moving it vertically, the main shaft, and an oscillatory cam *az* thereon engaging the other end of said lever to operate it, combined and constructed substantially as and for the purposes hereinbefore set forth. 12th. A work supporting horn, a feed dog and its bar supported thereon, a bracket to which said feed dog is pivoted, and on which pivot it is adapted to slide, a bar loosely connected at its upper end with said feed dog bar, and in like manner connected at its lower end with a lever *z*, the bed of the machine, a chair *q* pivoted on said bed, said lever being fulcrumed on said chair, and an oscillating cam engaging the other end of said lever to move it on its fulcrum in the chair, and move the chair on its pivot, combined and operating as and for the purposes set forth. 13th. In a button attaching machine, a button raceway having the saddle-strip *o* over which the prongs of the wire loop, or staple, are adapted to depend, provided with the slot *az*, substantially as and for the purposes hereinbefore set forth. 14th. In a button attaching machine, a clenching anvil provided with a guide slot or slots, for guiding and clenching the prongs of the staple, and a transverse guide eye, or slot *z*, for the cord or wire, substantially as and for the purposes hereinbefore set forth.

No. 30,095. Fire-Escape. (*Sauveteur d'incendie*.)

Orson R. Barbor, Auburn, N.Y., U.S., 3rd November, 1888; 5 years.

Claim.—1st. The combination, in a fire-escape, of the case having the lid on the upper end formed in two sections, the said sections having notches in their meeting edges which register when the sections are brought together, the bail, or handle, pivoted in the opposite sides of the case below the lid, and adapted to pass through the registered notches, and the drum journaled in the case and having the cable E wound thereon, substantially as shown and described. 2nd. The combination, in a fire-escape, of the case A, the shaft C journaled in the sides thereof, spool or drum D on the said shaft, spur wheel G on one end of the said spool, the sliding pawl operating in vertical ways in the side of the case, and provided with the teeth I, I, to engage alternately in the teeth of the said spur wheel, and the cord or cable E, attached at the upper end to the said drum, substantially as specified. 3rd. The combination, in a fire-escape, of the case A, the shaft C journaled in the sides thereof, spool D on the said shaft, spur wheel G on one end of the said spool, having an uneven number of teeth, vertical bar H sliding in ways in the side of the case, and having a slot *h* therein to receive the shaft C, the teeth I, I, on the said bar above and below the said spur wheel, and adapted to engage alternately in the teeth thereof, and the cable to be wound on the said spool, substantially as specified. 4th. The combination, in a fire-escape, of the case A, the shaft C journaled in the sides thereof, spool or drum on the said shaft, spur wheel on the side of the said spool having an uneven number of teeth bevelled on both sides to a point, sliding pawl operating in the side of the case, and having the teeth I, I at the upper and lower ends above and below the said spur wheel, the said teeth being bevelled on both sides to a point, and adapted to engage alternately with the teeth of the spur wheel on opposite sides thereof, and the cord, or cable, attached to the said spool, substantially as specified. 5th. The combination, in a fire-escape, of the case A, the shaft C journaled in the sides thereof, and having the square post *c* on the end thereof on the outside of the said case, spool D on the said shaft, spur wheel G, sliding pawl to engage in the said spur wheel to impede the revolution thereof, the rope on the said spool, and the key K adapted to be engaged with the said squared post *c*, enable the spool to be turned to rewind the cord, or cable, thereon when unwound, as specified.

No. 30,096. Apparatus for Spraying Water. (*Appareil pour pulvériser l'eau*.)

Edgar Aldous, Forest Gate, Eng., 3rd November, 1888; 5 years.

Claim.—1st. A water spraying apparatus, consisting of the outside case A perforated with numerous small holes, inner lining B held off inside of A with bottom C, hole D, attached tube E, fitted with a conical dome F, through which projects the small end of a tapered tube G, for inlet of water, the other end being arranged to be con-

nected to a supply pipe, as and for the purposes described. 2nd. In a water spraying apparatus, the combination of the case A, perforated with numerous small holes, an inner lining B, held off inside of A, and a tapered tube F, the small end of which passes through lining, to introduce water between lining and case, the other end being connected to the supply pipe, as described. 3rd. In a water spraying apparatus, the combination of the barrel I, arranged with an internally tapered inlet J, for water, and having a rim L projecting from a dome K, and an attached rose M, the barrel I being suitably arranged for attachment to a supply pipe to introduce water into inlet J, as described.

No. 30,097. Apparatus for Indicating and Registering the Respirations of the Body. (*Appareil pour indiquer et enregistrer la respiration*.)

Khursod M. Tata, Navsari, India, 3rd November, 1888; 5 years.

Claim.—1st. In an instrument for indicating the respirations of the body, the combination, with a tube, of a valve connected with the tube, and a needle attached to said valve, substantially as shown and described. 2nd. In an instrument for indicating the respirations of the body, the combination, with a tube, and a strip of paper travelling transversely of the tube, of a valve, and a needle operated by the valve, substantially as shown and described. 3rd. In an instrument for indicating the respirations of the body, the combination, with a tube, and a mouth or nose piece secured at one end, of a valve connected with the tube near the opposite end, and a needle secured to the said valve, substantially as shown and described. 4th. In an instrument for indicating the respirations of the body, the combination, with a tube, and a strip of paper travelling transversely of the tube, of a valve, a needle operated by said valve, and means, substantially as described, for manipulating the paper strip, as and for the purpose specified. 5th. In an instrument for indicating the respirations of the body, the combination, with a tube, and a nose piece, or its equivalent, secured at one end, of a strip of paper travelling transversely of the tube at the opposite end, a valve connected with the tube located near the travelling strip, a needle operated by said valve, and means, substantially as shown and described, for manipulating the paper, all combined to operate substantially as shown and described. 6th. In an instrument for indicating the respirations of the body, the combination, with a tube, and a thermometer having its bulb located within the same, of a valve connected with the tube, and a needle attached to said valve, substantially as shown and described. 7th. In an instrument for indicating the respirations of the body, the combination, with a tube, a strip of paper travelling transversely of the same, and a thermometer having its bulb located within the tube, of a valve connected with the tube, and a needle operated by the valve, and engaging the paper strip, substantially as shown and described. 8th. In an instrument for indicating the respirations of the body, the combination, with a tube, and pressure rollers journaled at one end thereof, of a strip of paper held between the rollers, a valve connected with the tube, a needle operated by the valve, and engaging the paper, and means, substantially as described, for manipulating the said paper, as and for the purpose specified. 9th. The combination, with a tube, provided with a nose piece, or its equivalent, of a travelling strip of paper, means, substantially as described, for manipulating the paper, a valve connected with the tube, and a needle operated from the valve capable of travelling transversely across the said paper, as and for the purpose specified.

No. 30,098. Type Writing Machine.

(*Graphotype*.)

Bernard Granville, Chicago, Ill., U.S., 3rd November, 1888; 5 years.

Claim.—1st. In a type writer and in combination, pivoted key-levers, substantially horizontal in the machine, sliding and converging type-bars, all substantially horizontal, having type on their end faces, intermediate connections between the key-levers and type-bars, a laterally moving carriage, and a platen opposite to and facing the ends of the type-bars, substantially as and for the purpose described. 2nd. In a type writer and in combination, pivoted key-levers, substantially horizontal in the machine, sliding and converging type-bars, also substantially horizontal, having type on their end faces, and intermediate connections between the key-levers and the type-bars, a laterally moving carriage, and a platen opposite to and facing the ends of the type-bars, and an inking mechanism, substantially as and for the purpose described. 3rd. In a type writer and in combination, pivoted key-levers, substantially horizontal in the machine, sliding and converging type-bars, substantially horizontal having type on their end faces, and intermediate connections between the key-levers and the type-bars, laterally moving paper carriage and platen opposite to, and facing the ends of the type-bars, and a vertically and rotating ink disk, substantially as and for the purpose described.

No. 30,099. Elevating Apparatus.

(*Monte-charge*.)

Charles R. Otis, Yonkers, N.Y., U.S., 3rd November, 1888; 5 years.

Claim.—1st. An elevator, provided with a main valve and an electric valve and a regulating valve, all constructed to operate substantially as and for the purpose set forth. 2nd. The combination, in an elevator engine, of a main valve, a regulating valve, and an auxiliary valve operating engine, provided with a valve connected with an electric motor, substantially as described. 3rd. The combination in an elevator, of the main engine, provided with a valve, an auxiliary engine connected to operate the main valve, an electric motor connected to the valve of the auxiliary engine, and a regulating valve controlling the flow of motor fluid to the auxiliary engine and connected with the main valve, substantially as described. 4th. The combination, with the cylinder and piston of an elevator engine and with a valve controlling the movements of said engine and con-