

bication of the spring pin or hammer *t*, the trigger *s* and the adjustable setting wheel *p* recessed at *pi*, to permit the retraction of the said trigger, and provided with a pin or tippet *r*, to retract it. 21st. The combination of the spring pin or hammer *t*, the socket *z* and the eccentrically pivoted cartridge receiver *x*. 22nd. The combination of a firing device to effect the explosion of a shell or cartridge, a time gearing to determine the period of said explosion and a governor to regulate the movement of said time gearing.

No. 10,241. Improvements in Gas Apparatus.

(*Perfectionnements aux appareils à gaz*.)

Reinhold Bocklen, Boston, Mass., U. S. A., 16th July, 1879, for 5 years.

Claim.—1st. The carburettor *B* constructed with the sides, top and bottom of fire-proof material and with the joint at its cap *U*; 2nd. The arrangement of the central air pipe *M* with the spiral generated conduit *O* and the screws *N P* with the absorbent material applied as stated; 3rd. The combination of the gas and air pipes with the air mixing valve or cock *S* and the carburettor; 4th. The combination of the carburettor *B* with its air pipe *K* and gas pipe *T*; 5th. The combination of the carburettor *B* with its air pipe *K* and gas pipe *T*; 6th. The combination of the carburettor *B*, regulator *D* and gas fixture *A*; 7th. The combination of the carburettor *B*, regulator *D* and gas fixture *A* with the air pump *C*, mixing cock *S*, gas outlet or pipe *T* and air inlet *K*; 8th. The combination of the carburettor with the air cock *L*, gas cock *R* and mixing cock *S* with the union couplings *V* attached for detachment; 9th. The combination of the hand pump *F*, can or barrel *E* with its cap *X*, and its air and liquid pipes with the carburettor *B*; 10th. The construction of the pump *C* with the inner drum *b*, its chamber *c*, stuffing box *e*, the bent pipe *a* and outer drum of the pump; 11th. The combination of the carburettor *B*, pump *C*, with a lamp post; 12th. The combination of the carburettor *B*, pump *C*, weight *I*, drum *G*, burner cock *17*, crank *21*, rod *22* and its adjustable collar *23* for extinguishment of the gas light automatically; 13th. The carburettor *B*, its cocks *R S L*, regulator *D* and check valves *28*, air brake pipe *30*, fixtures *A* and reservoir *29*, and the hand pump *F* for application of the gas light in cars; 14th. The combination of the carburettor *B*, its gas and air cocks *R L* with the regulator *D*, the check valve *28*, pipe *30* and fixtures *A* with coupling *a* and passages *32* and *33*.

No. 10,242. Improvements in Telephones.

(*Perfectionnements aux téléphones*.)

Abner M. Roseburgh [Co-Inventor with Francis A. Skelton], Toronto, Ont., 16th July, 1879, for 5 years.

Claim.—1st. The combination, in one instrument, of a telephone and a magneto electric signalling apparatus of any convenient construction. 2nd. The combination of a telephone and an electric signalling apparatus with a single or compound permanent magnet in common to the two instruments; 3rd. In connection with an electric generator, with or without a speaking telephone and with or without a bell signal receiving apparatus, the combination of a short circuiting device and a circuit breaker. 4th. In connection with movable induction coils, with or without a speaking telephone and with or without a bell signal receiving apparatus, the combination of a spring break or any similar device, for the purpose of generating pulsatory electric currents on a telegraph or telephone line. 5th. On a telephone line or on a telegraph line, used for telephone purposes, and in connection with a system of telephones, the combination of a diaphragm and a telephone electro-magnet, for the purpose of calling attention when pulsatory electric currents are used for signalling purposes on said line. 6th. For the purpose of receiving weak undulatory electric currents or weak electric currents of opposite polarity, the combination of an electro-magnet pivoted between fixed polarized armatures, with or without a single permanent magnet used for induction purposes; 7th. In the combination of an electro-magnet pivoted between fixed polarized armatures with a short circuiting device, circuit breaker and movable induction coils with or without a speaking telephone; 8th. The combination of a resistance medium or a condenser, or both, and an electric generator of any convenient construction with or without a bell signal receiving apparatus and with or without a speaking telephone; 9th. In connection with a magneto-electric machine, with or without a speaking telephone, the combination of a resistance medium or a condenser, or both, and either a switch or one or more separate binding posts.

No. 10,243. System of Drainage and Ventilation.

(*Système de drainage et de ventilation*.)

Thomas Jewell, London, England, 16th July, 1879, for 5 years.

Claim.—The general arrangement and combination of flues *A B C D E* with pipes and apparatus.

No. 10,244. Improvements in Copying Ink.

(*Perfectionnements à l'encre à copier*.)

Joseph M. Jacobs, Montreal, Que., 16th July, 1879, for 5 years.

Claim.—1st. A compound of gelatine, glycerine, water and whitening; 2nd. As a new article of manufacture a copying tablet composed of gelatine, glycerine, water and whitening provided with a back or support *A*; 3rd. A compound of aniline crystals, alcohol and water forming an ink in combination with a tablet composed of gelatine, glycerine, water and whitening.

No. 10,245. Apparatus for Spooling in Combination with Sewing Machines.

(*Appareil à bobiner en rapport avec les machines à coudre*.)

John Kayser, Kaiserslautern, Germany, 16th July, 1879, for 5 years.

Claim.—1st. The combination, with the needle bar of a sewing machine, of the spindle *d*, carrying spool *g* held up by spring *e*, and friction wheel *f* put in gear at will with driving mechanism of machine. 2nd. In combination with spindle *d* rotated at will, the box *a* carrying the wheel *e*, which receives motion from worm *di* and operates lever *m*. 3rd. In combination with the rotating spindle *d*, the lever *s* with shoulder *l* and spring *k*.

No. 10,246. Improvements on Reaping Machines.

(*Perfectionnements aux faucheuses-moussonneuses*.)

Melville T. Neale, London, Eng., 16th July, 1879, for 5 years.

Claim.—1st. The combination of the flat inclined forward platform *l*, and the flat rearward platform *22*, constructed with spaces or slots. 2nd. The

rearward platform *28* consisting of transverse boards, planks, or their equivalents, and longitudinal timbers or bars *28a*, in combination with the sockets attached to the framing of the forward platform, so that said rearward platform may be adjusted longitudinally of the machine; 3rd. The rake or brush *4* with its arms *5* pivoted or jointed at *5a* to arms carried by the axis *8*. 4th. The combination, with the arms *5*, of the bracket *6* with its roller or pin; 5th. The combination, with a pivoted rake or brush, of a ring or cam *pat* for controlling the movement of the said rake or brush; 6th. The combination of the rake or brush *4*, its arms *5*, the pivot or joint *5a*, the lever arms *3* on the axis *8*, the bracket *6* with its roller and the ring or cam *pat*; 7th. The combination, with the rearward platform, of tines or prongs *14* or their equivalents. 8th. The combination, with the rearward platform *28* and the tines or prongs *14*, of the springs or counterbalances for keeping the said tines or prongs in their proper normal position. 9th. The combination with the fixed receiver or hooks *35a*, of the movable compressing arms *35*, and in combination with the compressing arms *35* and cam on the main shaft *14* the volute pulley and yielding connection for operating the said compressing arms *35*; 11th. The combination with the main shaft *14*, cam *31*, lever *32* and connecting rod *33*, of the reciprocating intermittent fork or rake *29*. 12th. In combination with the rearward platform and tying gear, the fork *24*, tines or prongs *34*, compressor hooks *35* and receiver *35a*, for the purpose of gathering, compressing and holding the stalks to be bound. 13th. The combination, with the compressing arms *35*, of bars or parts arranged to slide *t* and *fro*, and to project at the proper time for receiving the binding material in the absence of sufficient stalks to be bound. 14th. The combination with the compressing arms and sliding bar or part *40*, of the spring hinge *40a* to allow said bar or part *40* to accommodate its position to the strain on the binding material. 15th. The combination, with the compressing arms, sliding bars or parts and their forked frame, of the curved fixed bar or plate *16*. 16th. The combination, with the arm *42* of the twine carrier, of the shield or guard *30* to prevent entanglement with the stalks during the passage of the said arm around them. 17th. The combination, with the arm *42* of the twine carrier, of the pinion *26* with the two projections or large teeth at its side. 18th. The combination, with the toothed quadrant *25*, of the said ring or circle *27* with its two recesses. 19th. The combination, with the twine carrier arm *42*, of the pinion *26* with its two projections or large teeth, the toothed quadrant *25*, side wing *27*, with its two recesses and gear for operating same; 20th. In combination, with the frame *18* and tying gear, of the timbers or bearers *17*, carrying the said tying gear and adjustable sockets; 21st. The combination, with the loopers *50 51*, of the fixed loop retainer *52a*; 22nd. The combination, with the loopers *50 51*, and main shaft *19*, of the cam *61*, lever *56* and connecting rod *55*; 23rd. The combination, with the loopers and their frame, of apparatus for gripping the binding material to prevent the collection of stalks from receiving slack, when the loops are being delivered on to the tube or sheath of the reciprocating pinners; 24th. The combination of the bar *51a* and its projections with the looper frame *54*; 25th. In combination with the looper frame *54* and projection bar *51a*, the bar or presser *49* with its tail out arranged to be operated by the projections of said bar *51a*; 26th. The hook-shaped tightener *67* in combination with its spring *70*; 27th. The combination, with the looper frame, of the spring tension device *66*, with its pulley *66a*; 28th. The combination with the main driving shaft *19*, of the double faced cam *57*, with its lever *55* and connecting rod *56* for operating the loopers, and its lever *60* for operating the tube or sheath; 29th. The combination, with the main driving shaft *19*, of the double faced cams *61* and its lever *62*, for operating the reciprocating pinners, and its lever *63* for operating the pusher. 30th. The combination with the sheath *44*, of the tail-piece *45*; 31st. The combination, with the tail-piece *45*, of the shield or guard *45a*; 32nd. The combination with the case *46* and sheath *44* of the twine carrier pinners, of the spring *46a* and projections *46b*; 33rd. The combination, with the main driving shaft *19* and the cam or kicker *48*, of the flange lever *47*, by which motion is transmitted to the sheath *44* of the twine carrier pinners; 34th. The combination, with the main driving shaft *19* and rake cam *31*, of the clutch *23*; 35th. The combination, with the tube or sheath *44*, of the cleat discs, screw *65* and tail nut *33a*, for the purpose of gripping the binding material.

No. 10,247. Improvements in Spring Motors.

(*Perfectionnements aux moteurs à ressort*.)

Walter M. Rice, Montreal, Que., (Assignee of Elisha Shiver, Pittsburg, Pa. U. S.), 16th July, 1879, for 5 years.

Claim.—1st. The two pinions *f g*, mounted in suitable shafts, both having a simultaneous motion into and out of gear with the spur wheel *l*, said motion being imparted from the winding shaft. 2nd. The shaft *g* and frame *K*, carrying the pulley shaft *l*, and two pinions *f g*, in combination with the spur wheel *l*, whereby the same attachments may be made operative in machines running in opposite directions. 3rd. In the spring *T*, thrown aside and out of contact with the fly wheel *N* by the trip arm *V*, for stopping and starting, in combination with the rubber bar *S* and pressure lever *U*, for regulating the speed. 4th. The drum *m* on the shaft *l*, in combination with the rubber bar *S*, having a spring extension provided with a series of notches or ratchet teeth, and the pressure lever *U*, the lower end of which is adapted to engage in any desired one of the notches or ratchet teeth, and thereby regulate the speed. 5th. The wood pulley *R*, having working faces of different diameters and divided longitudinally into two halves, clamped upon the shaft by the screws *r*, passing from one half into the other. 6th. The gear driving wheels with their centres arranged in a straight line in combination with the spring shaft and driving springs. 7th. The combination of three or more frame plates or standards with the driving gear springs and operating parts. 8th. The hubs provided with spring connecting rods and having a square hole, in combination with the shafts provided with squared sections to receive said hub.

No. 10,248. Machine for Gathering and Binding Corn, &c.

(*Machine à cueillir et à lier le blé-d'Inde, &c.*)

William Woolnough and Christopher Kingsford, Kingston, Eng., 16th July 1879, for 5 years.

Claim.—1st. The combination of parts for binding corn and other cul crops into sheaves, composed of an arm fitted with oscillating nippers and movable jaw or cleat for holding the strings or other suitable binding materials, thus enabling the sheaf to be pressed close to the knotting gear, as a fork for twisting the strings having a vertical oscillating and rotary motion imparted to it by the rack and pinion herein described, nippers for drawing the strings