the main shaft B, a feed-cam, a feed-bar W, eccentric B1 provided with sleeve E1, pin D, spring F1 and stop pin I1 adapted to enter holes H11 in the eccentric. 19th. The feed-dog provided with feed-points or teeth 46 having one side vertical and the other side inclined, and arranged in a series of pairs, so that the same shaped sides of each pair are adjacent. 20th. The compressible bushing provided with a groove around its base, in combination with the bearing provided with screw *o*. 21st. The bed-plate A provided with the cross-shaped raised portion having removable slides 28 28 28. 22nd. In a tension device for a sewing machine, two rigid friction surfaces in combination with two movable friction plates *u u* supported or rigid bar *v*, spring 3 and set screw *t*. 23rd. The balance wheel 13 and plate 14 provided with central radial corrugations, in combination with the hollow end shaft B having slots 11 11, bolt 7 provided with a cylindrical stem, cross-pin 8, and wheel 10 provided with a threaded sleeve, which enters the hollow end of the shaft. 24th. An arm attached to the needle-bar rock shaft and provided with head 22 carrying stops 19 20, in combination with a take-up arm 23 pivoted independently within the head. 25th. The take-up bar having a hollow hub, in combination with an inserted coil detent spring 26. 26th. The take-up bar 23 in combination with an operating lever and a spring device 20 31, for starting the take-up arm downward with a yielding spring pressure. 27th. The lever-head 22 having projections 17 18, adjustable stop 19 and spring device 20 21, in combination with the take-up arm 23 having a projecting end 22, detent spring 26 and stops 25 25. 28th. The needle-bar having the cylindrical needle-hole 40, in combination with a removable cap or guide 43 provided with a face which partially covers the entrance to needle-hole 40. 29th. The needle-bar provided at its lower end with a cylindrical opening, and the semi-circular slot 41, in combination with the removable cap 43 provided with a set screw 44 entering slot 41. 30th. The sewing machine treadle cast with the bevelled slots C111 and the half round bearings *h*111, in combination with the tapering blocks *c*111 and screws *c*10. 31st. The sewing machine crank shaft having conical ends and adapted to be operated by treadle C11, in combination with the sleeves M111 provided with holes N111 and threaded interiorly, and bushings K111 having partially cylindrical bearing grooves O111 and holes *p*111. 32nd. The oil pan L111 bolted to rod B111 through abutment *n*111, its outer end turned up at *m*111 and screwed to the frame provided with the enlargement L1111 and standing so as to have a general pitch to a lowest point *q*111. 33rd. The solid imperforate guard G111.

No. 16,741. Machine for Cleaning Fruit.

(*Machine pour nettoyer les fruits.*)

Samuel A. Rice and Walter S. Ovens, Buffalo, N.Y., U.S., 23rd April, 1883; for 5 years.

Claim.—1st. A machine for cleaning fruit having cylindrical netting A secured to a suitable frame, as specified, and provided with a hopper C2 and an outlet spout D, in combination with a revolving brush G. 2nd. The reticulated cylinder A provided with a hopper C2, outlet spout D and nozzle H, in combination with the shaft E and brushes G.

No. 16,742. Improvements on Car Trucks.

(*Perfectionnements aux châssis des chars.*)

Charles T. Emerson, Lawrence, Mass., U. S., 23rd April, 1883; for 5 years.

Claim.—1st. The combination of the railway truck with a fender H arranged aside of one side wheel of such truck, and with a bell-shaped deflector I adapted to such fender at each end thereof and arranged with the truck wheel, and provided with a bearing wheel to run on the railway rail. 2nd. The combination of the bell-shaped deflector with its supporting cylinder and spring, and with the fender extending from such cylinder. 3rd. The combination of the bell-shaped deflector and its sustaining wheel, with the supporting cylinder and spring arranged within such deflector, and with a fender extending from the said cylinder.

No. 16,743. Perforator for Automatic Printing Telegraphs. (*Perforateur pour les télégraphes automatiques imprimants.*)

Albert F. Johnson and Frank B. Johnson, Brooklyn, N. Y., U.S., 23rd April, 1883; for 5 years.

Claim —1st. In combination with the levers *a*, each provided with and operated by a knob *f* representing a particular letter or character and the lever *a*1 provided with, and operated by a knob *f*1, the punching rods *h*1, feed-roller *r*, ratchet wheels *s*, pawls *s*1, bent levers *s*2 and bars *t t*1. 2nd. In combination with the ratchet wheels *s* and feed-roller *r*, the bent levers *s*2 provided, at their upper ends, with pawls *n* and, at their lower ends, with transverse bars *t t*1, and levers *a a*1 having their ends fitted between said bars *t t*1 in the relative positions.

No. 16,744. Receiving Instrument for Automatic Printing Telegraphs. (*Récepteur des télégraphes automatiques imprimants.*)

Albert F. Johnson and Frank B Johnson, Brooklyn, N.Y., U.S., 23rd April, 1883; for 5 years.

Claim.—1st. In a receiving instrument for automatic printing telegraphs having a separate magnet for each letter or character employed in sending messages, the combination of the series of U-magnets F, each connected by a separate line wire *f*4 with the sending station, and each having a hinged armature provided with a printing lever L, the separate U-magnet F1 connected with the sending station by a separate line wire *f*5, the feed mechanism consisting of the rollers *n n*2, ratchet *l* and rod K2 operated by the armature of said magnet F1, the ring J connecting each of said magnets with a local battery, and the strips G1 and G2 to receive and conceal the printing. 2nd. The combination of the strips G2, message strips G1, feed roller N and friction roller *n*2, cup *n*5, lever *n*4 and switch R1 provided with the plug R2. 3rd. In combination with the strips G1 G2 and the printing levers L, the rollers N N2 and reels Q and Q', the inking ribbon S, inking roller S3, roller S1 S2 and pulley K3.

No. 16,745. Improvements on Friction Clutches. (*Perfectionnements aux embrayages à friction.*)

James H. Blessing, Albany, and Ralph R. Osgood, Troy, N.Y., U. S., 33rd April, 1883; for 5 years.

Claim.—1st. A pressure cylinder mounted upon and turning with the driving shaft, said cylinder carrying a piston driven by fluid pressure and connected with the friction band. 2nd. The conduit for the fluid under pressure, the same entering the axis of the shaft, passing out at an angle with the same and leading to the bottom of the pressure cylinder, said cylinder being made to turn with the shaft. 3rd. The pressure cylinder made to turn with the shaft, the piston thereof connected with the arm which regulates tension on the friction band, and the fluid pipe containing a constant supply of fluid and connecting the pump and cylinder, the several parts combined as described. 4th. The combination of the pressure-cylinder, the piston therein connected with the arm which moves the clutch band and the retracting spring applied to said arm, these several parts being mounted and arranged to turn with the shaft. 5th. In combination with the fluid conduit connecting the pressure pump and the pressure cylinder mounted upon and turning with the axle, the air cocks arranged so as to relieve the pipe or conduit. 6th. The combination of the arm or lever connected with the friction band, the pressure cylinder and its piston, the coupling rod, the retracting spring, the supply pipe or conduit leading through the shaft of the drum to the bottom of the pressure cylinder and the pressure pump.

No. 16,746. Improvements in Ventilating and Apparatus therefor. (*Perfectionnements dans l'aérage et appareil pour cet objet.*)

Thomas Rowan, London, Eng., 23rd April, 1883; for 5 years.

Claim.—1st. The use of apparatus for ventilating sewers, drains, water-closets or the like, by the employment of a stove or heating apparatus in communication with the sewer, drain, or water-closet pipe, and with an upshaft or chimney. 2nd. The use, for ventilating buildings, rooms and the like, of a stove or heating apparatus.

No. 16,747. Improvements on Bedsteads.

(*Perfectionnements aux bois des lits.*)

James Goodwin, Boston, Mass., U.S., 23rd April, 1883; for 5 years.

Claim.—1st. The combination of the standard B, the adjustable bracket D J attached to a bedstead, the socket E and swinging arm E1, 2nd. The combination of the standard B, socket E, swinging arm E1, the separable shaft F H, the worm gears *h' h*, worm pintons *g g* carrying the shaft that bears the spools I1 I1 for winding the belts *o*2 *o*2. 3rd. The combination of the standard B, socket E, arms E1, with the shafts G L, the spools I I and belts *o o*1, for operating the head and foot portions of the frame *r r*1 *r*11. 4th. The adjustable bracket B J, in combination with the standard B and bedstead frame A. 5th. The combination of the vertical rods J J1, the slides *n n* and adjustable frames *k k*, eyes *s* in frame *r*1, and the frame *m*. 6th. The combination of the adjustable bracket J D, the standard B, bedstead frame A and the rear supporting rod *b d*.

No. 16,748. Improvements in Cooking Stoves. (*Perfectionnements aux poêles de cuisine.*)

James M. Spencer, Colchester, N. S., 24th April, 1883; (Extension of Patent No. 8,680.)

No. 16,749. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

The National Machine Company, (assignee of Joseph P. Hallenbeck,) New York, N. Y., U. S., 24th April, 1883; for 15 years.

Claim.—1st. The combination, with a sewing machine having an eye pointed needle, and means for moving the needle to and fro endwise and for producing therewith stitches from a continuous thread or continuous threads, of a button-hole work-holder and mechanism for imparting to the work-holder a progressive lengthwise movement, next a progressive semi-circular movement, next a progressive lengthwise movement, short gradual lateral movements in one direction during the last part of said first lengthwise movement, and in the opposite direction during the first part of said last lengthwise movement, and intermittent momentary to and fro movements, transverse to said lengthwise movements, and throughout said lengthwise and semi-circular movements, and in one direction at one ascent of the sewing machine needle, and in the opposite direction at the next ascent thereof. 2nd. The combination, with a button-hole work-holder and mechanism for imparting to the work-holder a step by step semi-circular movement, progressive lengthwise movements prior and subsequent to said semi-circular movement, and short gradual transverse movements, of means for altering the length of said gradual transverse movements just before and after said semi-circular movement of the work-holder. 3rd. The combination, with a button-hole work-holder and means for imparting to said work-holder a semi-circular movement, lengthwise movements prior and subsequent to said semi-circular movement, and gradual transverse movements just before and after said semi-circular movement and for altering the length of said gradual transverse movements, of means for imparting to said work-holder intermittent momentary to and fro movements transverse to the direction of said lengthwise movements and during said lengthwise semi-circular and variable transverse movements. 4th. The combination, with a button-hole work-holder and a bar or lever adapted to be moved to and fro by a sewing machine, of mechanism for imparting from said bar or lever to the work-holder a step by step lengthwise movement, next