

arm, and theawl carrying radius arm in the direction of the length of the needle andawl operating shaft to vary the distance between the needle andawl. 3rd. The combination, in a sewing machine, of a needle andawl operating shaft, mounted in bearings, so as to be revolvable and movable endwise therein, two radius arms arranged side by side on said shaft, one being fixed thereon and the other movable lengthwise of said shaft, and provided with a peripheral groove in its hub, and both revolvable with said shaft, a curved needle mounted in the free end of said fixed arm, a curvedawl mounted in the free end of the movable arm in a position by the side of and parallel to said needle, a grooved collar fixed on said shaft, a sliding plate, a shipper arm carried by said plate and engaging with the grooved collar on said shaft, a second sliding plate mounted on the first mentioned plate, a forked shipper arm carried by said second plate and engaging with the groove in the hub of theawl radius arm, a hand lever mounted upon a fulcrum pin set in the first mentioned sliding plate, constructed and arranged to act upon the second sliding plate, to impart endwise motion thereto, by a movement of said hand lever about its fulcrum, a lever fulcrumed upon a pin set in a fixed portion of the machine, and provided in one arm with a curved groove to engage with a block or roll on the handle arm of said hand lever, and a cam constructed and arranged to act upon the other end of said lever to vibrate the same, substantially as and for the purposes described. 4th. The combination, in a sewing machine, of the shaft *b*, mounted so as to be movable endwise and about its axis, the arm *c*, fixed thereon, the arm *d*, mounted on said shaft and revolvable therewith, and movable lengthwise thereof, the curved needle, carried by the arm *c*, the curvedawl carried by the arm *d*, the plate *R*, provided with the segmental ratchet *R*², the plate *S*, provided with the lug *s*, and roll *s*², the shipper arms *R*¹ and *S*¹, the hand lever *R*⁴, fulcrumed upon the plate *K*, and provided upon one side of said fulcrum with the slots *r*¹ and *r*², and upon the other side of said fulcrum with the block or roll *r*³, the dog or pawl *r*⁴, the lever *T*, provided with a curved groove to receive the roll *r*³, and at its opposite end with the roll or stud *s*², and the cylinder cam *E*¹, all constructed, arranged, and adapted to operate, substantially as described. 5th. The combination, in a sewing machine, of a curved needle mounted in the free end of a radius arm carried by an oscillating shaft, a pinion on said shaft, a lever having formed on one arm a segment of a gear to engage said pinion, a cam to act upon the opposite end of said lever, constructed and operating to impart to said needle a forward movement in two steps, with a rest between and a backward movement in a single step, and a rotary shuttle arranged to move in a plane at right angles to the plane in which the needle reciprocates, with its hook in position to intersect the path of the needle, and provided on its rear face with two segmental ribs concentric with the axis of said shuttle, and at such distances therefrom, that the point and barb of the needle when in its intermediate standstill position will be between said ribs, as set forth, and said ribs will have cast the thread off from the barb of the needle. 6th. The combination, in a sewing machine, of a curved needle mounted in the free end of a radius arm carried by an oscillating shaft, a pinion on said shaft, a lever having on the free end of one arm a toothed segment to engage said pinion, a cam to act upon said lever, constructed, and operating to impart to said needle a forward movement in two steps, with a period of rest between said steps, and a backward movement in a single step, with a period of rest between the forward and backward movement, a reciprocating rotary shuttle, a shuttle operating shaft, having mounted thereon, a pinion, a lever having a toothed segment on the free end of one arm thereof, to engage said pinion, and a cam to act upon said lever, constructed and operating to impart to said shuttle a complete revolution in a forward direction, and a corresponding backward movement, with a stand still at the end of each movement, said movements being so timed that the forward movement of the shuttle takes place while it is at or in the rear of its intermediate standstill position, and the backward movement of the shuttle takes place while the needle is in a state of rest at the extreme of its forward and upward movement. 7th. The combination, with the shaft *b*, the needle arm *c*, fixed thereon, the needle *c*², the bolt *c*³, provided with the clamping head *c*⁴, of theawl arm *d*, movable lengthwise on said shaft and provided with the offset *d*², and the lip *d*³, and theawl *d*⁴, formed in one piece with the block like haft *d*⁵, provided with the offset *d*⁶, and secured to theawl arm by a screw bolt, whereby saidawl is adapted to be adjusted into close proximity to or away from said needle. 8th. In combination, with the presser foot bar, two ratchet bars secured thereto, upon opposite sides thereof, with the pawl engaging shoulders on one, facing downwards, and on the other upwards, a lever carrying on its front end a pawl, or pawls arranged to engage at the proper times with the teeth of each of said ratchet bars, a cam to act upon the rear end of said lever, and impart thereto a vibratory motion, and a guard pin constructed and arranged to retract said pawls from engagement with said ratchet bars during a portion of the time of each revolution of the cam shaft. 9th. The combination of the needle carrying and operating shaft, a radius arm fixed thereon, a second radius arm mounted upon and revolvable with and movable endwise of said shaft, a curved needle mounted in the free end of said fixed arm, a curvedawl mounted in the free end of said movable arm in a position by the side of and parallel with said needle, a forked shipper constructed and arranged to engage with the hub of theawl radius arm, a pivoted hand lever engaging with said shipper to impart motion thereto, a pawl or dog mounted upon the handle end of said hand lever, and a ratchet constructed and arranged to be engaged by said pawl or dog to lock said hand lever, and through it theawl against accidental displacement. 10th. The thread tension wheel *q*, having a thread receiving groove, the bottom of which is polygonal, or composed of a series of flat sides meeting each other at angles. 11th. The thread tension wheel *q*, having a polygonal section between its flanges, and provided at one end with a ratchet wheel, in combination with the lever *Q*, the pawl *q*², pivoted thereto, the set screw *q*³, the spring *q*⁴, and the cam *q*⁵, all constructed and arranged to operate, substantially as described. 12th. In combination with the needle carrying and operating shaft and a revolving shuttle, the stands *G*¹, *G*², detachably secured to the front of the bed by suitable bolts, and having formed in their upper ends bearings for said shaft, and in their under sides with bearing surfaces to fit the shuttle raceway, the raceway *G*³, made in the form

of a segment of a ring, and fitted between and supported by said stands, and the screws *a*, for securing said raceway to said stands. 13th. In combination, with the needle carrying and operating shaft, of a sewing machine, and a revolving shuttle, the stands *G*¹, and *G*², detachably secured to the front of the bed of the machine by suitable bolts, and having formed in their upper ends bearings, for said shaft, bearing surfaces upon their inner sides, to receive the shuttle raceway, and one of said stands being provided with a bearing to receive the work support, the shuttle raceway *G*³, made in the form of a segment of a ring and fitted between and supported by said stands, the screws *a*, for securing said raceway to said stands, and the work support *j*, detachably secured by a bolt or screw to one of said stands, substantially as described.

No. 34,975. Gondola Car. (*Char-gondole*.)

Thomas Watkins, Coal Bluff, Pennsylvania, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. The combination, with the door opening, vertical posts 20, 21, at the sides thereof, and a round bar 19, connecting said posts above and in front of the door opening, of a door adapted to close said opening, and hinge straps 18, fixedly secured to the inner face of the door, and extending above its upper edge around the rod to rock and slide thereon, whereby the door may be held open by first swinging it outwardly, and then laterally until its upper edge engages the outer face of one of the posts, substantially as set forth. 2nd. The combination, with a car having its bottom inclined from opposite sides of the center, and door openings in its sides, of posts 20, 21, one of each pair of which has a recess *b*, and each pair having recesses *a*, in the lower ends of their adjacent faces, rods 19, doors *B*, mounted to swing on said rods and to slide laterally thereon into engagement with said recesses *a*, substantially as set forth. 3rd. The combination, with the posts 20 and 21, forming a portion of a car body, of a rod or bar carried by said posts, a trap or door mounted to turn and to slide upon such rod, one of the posts being provided with a recess adapted to receive the upper edge of the door, substantially as described.

No. 34,976. Attachment for Fanning Mills.

(*Disposition aux Tarares-cribleurs*.)

Robert K. Floeter, Chatham, Ontario, Canada, 6th September, 1890; 5 years.

Claim.—1st. The application of rolls of india-rubber, or other similar elastic material, to a fanning mill, substantially as and for the purpose set forth. 2nd. As a new article of manufacture, a fanning mill formed with rolls *R*, *R*¹, substantially as and for the purpose set forth. 3rd. The combination of the stationary or permanently placed roll *R*¹, and shaft *A*¹, the adjustable roll *R* and shaft *A*, said rolls being formed of india-rubber, or other elastic material and suitable supporting devices, substantially as and for the purpose set forth. 4th. The combination of stationary or permanently placed rolls *R*, *R*¹, the shafts *A*, *A*¹ and the brackets *B*, *B*¹, or other equivalent means for supporting said shafts, substantially as and for the purpose set forth. 5th. The combination, of the rolls *R*, *R*¹, formed of india-rubber or other elastic material, the shafts *A*, *A*¹, the brackets *B*, *B*¹, and a plate of india-rubber, or other elastic material, placed between the outer sides of one or both of the shafts *A*, *A*¹, and the adjacent sides of their bearings, substantially as and for the purpose set forth.

No. 34,977. Revolving Book Case.

(*Bibliothèque tournante*.)

Curtis Goddard, Alliance, Ohio, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. The within described revolving book-case, consisting of the central standard *A*, secured to the base *A*¹, provided with the rail *a*¹, the stationary case *B*¹, provided with the solid top cover *B*, secured to the top of the standard *A* and the door *b*, the bottom of the case having an opening adapted to receive and fit the lower revolving shelf, the inclosed revolving shelves *C*, with supports *c*, the casters *E* attached to the lower revolving shelf, and the circular hand rail *C*¹ secured to the lower shelf *C*, by means of the arms *c*², substantially as shown. 2nd. In a revolving book-case, the combination of the central standard *A*, the stationary case *B*¹, having the solid cover *B*, secured to the standard *A*, and the door *b*, the bottom of the case having an opening adapted to fit the lower shelf, the inclosed revolving shelves *C*, and means for revolving the shelves, consisting of the hand rail *C*¹, secured thereto by the arms *c*², substantially as shown. 3rd. The combination, in a revolving book-case, of the base *A*¹, supporting the central standard *A*, the stationary case *B*¹, having the solid cover *B* secured to the standard *A*, and an opening in its bottom adapted to fit the lower revolving shelf, the inclosed revolving shelves, and the hand rail *C*¹, secured to the lower shelf by the arms *c*², substantially as shown.

No. 34,978. Fruit Picker. (*Jaffet*.)

John W. Cain, Rusk, West Virginia, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. In a fruit picker, the combination with the handle *A*, the loop *B*, secured to the handle and projecting above the same, and the bag *E*, secured to the loop of the angular jaw *C*, pivoted to the said loop and provided with the pins *b*, projecting from its inner edge, and with the covering *C*², the spring *d*, for holding the jaw normally closed, the arm *D*, pivoted to the handle, the rod *k* connected to the arm and to the jaw, and the rod *k*¹ connected to the outer end of the said arm *D*, substantially as shown and described. 2nd. In a fruit picker, the combination, with the handle *A*, the loop *B*, secured to the handle, and the bag *E* secured to the loop, of the