

No. 16,249. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

Duncan H. Campbell, Pawtucket, R. I., U.S., 2nd February, 1883; for 15 years.

Claim.—1st. The combination, in a wax thread sewing machine, of a main wax cup and an auxiliary wax cup on a level with the main cup adapted to be supplied with wax by flowage from the main cup, and arranged to be traversed by the thread on its way to the work plate. 2nd. The combination of a main wax cup and an auxiliary wax cup connected with the main cup and located between the take-up mechanism and the work plate, and in the straight path of the thread, whereby the thread enters and leaves the auxiliary cup in a direct line. 3rd. In a wax thread sewing machine, a tubular wax cup traversed longitudinally by the thread on its way to the work plate, and provided at top and bottom with perforated plugs, whereby the wax is inclosed and guarded against injurious exposure. 4th. In a wax thread shuttle having a thread chamber, a wax chamber and an aperture provided with packing for stripping the surplus wax from the thread as it leaves the shuttle.

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Claim.—1st. The combination of a hook-needle thread delivering and controlling mechanism, a curved shuttle and an arched shuttle race serving as a heating flue. 2nd. The combination of a hook needle, thread delivering and controlling mechanism, a curved shuttle, an arched shuttle race and an arched work plate, said needle shuttle and race being beneath the work plate. 3rd. The combination of the hook needle, the work plate convex laterally and longitudinally, and the shuttle beneath the work plate operating in a race which serves as a heating flue. 4th. The combination of a hook needle, a curved centrally pointed shuttle, an arched shuttle race, a curved shuttle in its course therein and serves as a heating flue, and a shuttle driver mounted on a rock shaft below the centre of the race. 5th. The combination, with a shuttle having a longitudinally recessed web or groove on its upper side, of a race plate grooved on its under side for co-operating with the shuttle, for causing the slack shuttle thread to occupy the recess in the top of the shuttle during its backward movement. 6th. An arched or curved shuttle race serving as a heating flue, upper bearing for the shuttle composed of cork or similar yielding material not injuriously affected by heat. 7th. A curved shuttle provided with a longitudinal thread recess extending from nose to heel on its upper side. 8th. A curved shuttle provided with a longitudinal thread recess on its upper side, and a thread delivery aperture near the nose of the shuttle. 9th. A curved shuttle having a thread groove or recess on its upper side, extending from nose to heel, and a spring for bearing upon the thread within the recess. 10th. A segmental plate integrally affording an arched shuttle rail and bearings for a needle bar. 11th. The combination, with the awl bar, its operating rock shaft and the arm or lever thereon, of the bearing disk on the awl bar, slotted to receive said arm. 12th. The combination, with the feed slide carrying an awl or a needle for feeding its vibrating mechanism and coupling mechanism, of a feed graduating lever for varying the position of said coupling mechanism, whether the feed slide is in motion or at rest, and for supporting said mechanism in position. 13th. The combination of the slide vibrating mechanism, the feed slide having an inclined slot, and the coupling blocks capable of a sliding movement, for varying the vibrations of the feed slide while in active operation. 14th. The combination of the slide vibrating mechanism, the feed slide having the inclined slot, the coupling blocks and means for fixedly adjusting said blocks and thereby varying the vibrations of the feed slide. 15th. The combination of the vibrating slotted arm, the slotted feed slide, the coupling blocks, the lever for moving said blocks in their slots and the graduated scale. 16th. The combination of the feed slide carrying an awl or a needle, the feed graduating lever, the coupling mechanism controlled by said lever, the graduated scale and a locking device for maintaining said lever and supporting the coupling mechanism in any desired position. 17th. The combination, with a hook needle below a work plate and take-up mechanism including a pulley over which thread passes just prior to approaching the needle, of an inclined thread tube which occupies a direct line from the periphery of said pulley to the path of the needle. 18th. The combination, with a hook needle and a presser foot, of a thread eye for carrying thread across the path of the needle and above the presser foot, and a thread arm vibrating in the arc of a circle wholly at one side of the presser foot and the path of the needle, whereby the space above the presser foot less that required by the thread eye is rendered available for the complete elevation of the presser foot. 19th. The combination of a hook needle, a thread arm, a thread eye and operating mechanism for the arm and eye, which causes said eye to first carry and deliver the thread to the arm and thence deliver thread to the needle, and also causes the arm to merely retain and release the thread delivered to it by the eye, whereby said arm is prevented from abrading the thread. 20th. The combination of a hook needle, take-up mechanism, a thread tube in line with the path of the needle, and a thread eye which, when it has delivered thread to the needle, rests in line with the thread tube during the operation of the take-up, for obviating deflection and the consequent abrasion of the thread by the eye. 21st. The combination of the hook needle, the thread eye, its lower and reciprocating slide and the stationary slotted plate, whereby the path traversed by the eye toward and from the needle is laid in a straight line and in a curved line in delivering thread thereto. 22nd. The combination of a hook needle, a presser foot, a vibrating thread eye and a thread measuring arm which is variably adjusted for measuring off thread by the vertical movement of the presser foot. 23rd. The combination of the presser foot and the thread arm pivoted upon an axis, which is varied in its location by raising or lowering the presser foot. 24th. The combination, with the presser foot provided with a rounded projection on its bar, of a thread arm rotatively mounted on a lever, a

vertically inclined lug or web on said lever, and a spring for maintaining the surface of the inclined lug in contact with the projection on the presser foot bar, whereby the position of said thread arm is varied by the vertical adjustment of the presser foot. 25th. The combination of the thread arm mounted on a movable axis, the presser foot controlling the position of said axis, the reciprocating rod and the bell crank lever, and link connecting said rod with the thread arm. 26th. The combination, with the presser foot, its bar and lifting finger, of the vibrating lever which lifts the foot during the feeding operation, and an adjustable seat for the lifting finger on said lever. 27th. The combination of an arched shuttle race, a wax thread shuttle and one or more heating burners located near the lower end of the race, for heating the shuttle and its contents. 28th. The combination, with the parts to be heated in a wax thread machine, of a burner, or burners, remotely located from said parts and intermediate metallic connections for metallically conducting heat from said burners to said parts. 29th. The combination, with a thread tube for heating thread in its passage through said tube, and a heating burner remote from said tube, of a heating rod or plate connected with said tube at one end and exposed to the flame of the burners at its opposite end.

No. 16,251. Improvement in Manure Spreaders. (*Perfectionnement des distributeurs d'engrais*)

William H. Crandall, Stowe, Mass., U.S., 2nd February, 1883; for 5 years.

Claim.—The hopper having its front and rear sides inclined downwardly toward each other, and its front inclined side *a* extended rearwardly under and beyond the rear inclined side *b* with a discharging space or opening *c* between them, and also having its end extended in rear of its side, in combination with the axle *C* arranged medially in the said hopper and above its chute, and a gate *B* applied to such rear inclined side and space and with a toothed cylinder *D* arranged in rear thereof and over the extended part of the front side and between the end extensions, and provided with mechanism for operating the said cylinder.

No. 16,252. Method of flavouring Syrups and Sugars. (*Méthode pour aromatiser les sirops et les sucres.*)

Josiah Daily, Madison, Ind., U.S., 2nd February, 1883; for 5 years.

Claim.—1st. The method of flavoring saccharine matter, including syrup and sugar, by treating and impregnating the same with the principal or extract of hickory. 2nd. An improved syrup or sugar, composed of any suitable saccharine matter flavored with an extract of hickory.

No. 16,253. Elastic Japan. (*Laque élastique.*)

David Macdonald, Toronto, Ont., 2nd February, 1882; for 5 years.

Claim.—1st. A compound composed of copal varnish, japan gold size, oil, rubber and bees wax. 2nd. The combination, with ordinary lithographic ink, of japan gold size or its equivalent, for the purpose of producing an ink capable of printing on an elastic japan surface.

No. 16,254. Improvements on Pumps.

(*Perfectionnements aux pompes.*)

The Field Force Pump Company, (Assignee of William P. Field,) Lockport, N.Y., U.S., 2nd February, 1883; for 5 years.

Claim.—A pump constructed with the single pump-cylinder, the casing *G* having a stuffing box for the rod, and a hollow laterally extending arm *G*, and detachably secured to the upper end of the cylinder, the air chamber *B* secured on the outer end of the said arm and provided, at its base, with a check valve and a short spout *c*, and the nozzle *F* detachably secured to the short spout by means of bolts.

No. 16,255. Improvements on Stock Cars.

(*Perfectionnements aux chars à bestiaux.*)

Henry P. Bothwell and James H. Strugnell, Toronto, Ont., 2nd February, 1883; for 5 years.

Claim.—1st. The combination, with the standards *A*, of the transverse chains *E* and the chains *F* attached to the said transverse chains and adapted to be attached to the adjoining transverse chain, whereby stalls are formed and the animals prevented from lying down. 2nd. The combination, with the sides of the car, of the trough *D* attached to the outer sides of the standards *A* and the covering of the troughs, provided with the openings *D*. 3rd. The combination, with the sides of the car, of the troughs *D* increasing in width towards the middle and having the inner sides bulged toward the interior of the car. 4th. The combination, with the sides of the car, of the troughs *D*, the bevelled timbers *c c* attached to the outer sides of the standards, and the slats *B* attached to the timbers *c c*. 5th. The combination, with the feed boxes *G* open at the bottom, of the manger bars *J* and the hooks *a b*. 6th. The combination, with a car, of diagonal bars *K* held to the top and sides, and of the canvas sheets *L* to the top and sides of the car and to the said bars *K*.

No. 16,256. Improvements on Harness Hames. (*Perfectionnements aux attelles des colliers.*)

Christian Lange, Black Earth, Wis., U.S., 2nd February, 1883; for 5 years.

Claim.—The hame staple composed of the bracing shoulder piece *c*, the parallel prongs *e* projecting from its bearing face *d*, the oblique perforated lugs *g* extending from its outer face, and the roller bearing.