

No. 25,714. Slide Valve Mechanism for Steam Engines. (*Mecanisme de Tiroir de Vapeur.*)

Charles Schmid and George Farnsworth, Chicago, Ill., U. S., 13th January, 1887; 5 years.

Claim.—1st. In slide-valve mechanism, the combination, with the main slide-valve having escape-ports therein, and a supplemental valve for opening and closing said escape-ports, of suitable mechanism extending between said supplemental valve and some relatively fixed part of the structure, and adapted to shift the said supplemental valve as the main slide-valve is operated, substantially as described. 2nd. In slide valve mechanism, the combination, with the main slide-valve having suitable escape-ports therein, and a supplemental valve for opening and closing said escape-ports, of mechanism for shifting said supplemental valve, comprising a crank-arm suitably connected with the supplemental valve and adapted to be operated from some relatively fixed part of the engine structure, substantially as described. 3rd. In slide-valve mechanism, the combination, with the main chambered slide-valve having escape-ports therein, of a supplemental valve for said ports having apertures therein adapted to be brought coincident with the ports of the main slide-valve, and suitable mechanism for controlling the movement of said supplemental valve, substantially as described. 4th. In slide-valve mechanism, the combination, with the main slide-valve having escape-ports therein, of a supplemental disk-valve for said ports, and suitable mechanism for controlling the movement of said supplemental valve, substantially as described. 5th. In slide-valve mechanism, the combination, with the main slide-valve having escape-ports therein, of a supplemental rotating valve within said main valve, an arbor leading from said supplemental valve, a crank connected to said arbor and a rod connecting said crank to the steam-chest, substantially as described. 6th. In slide-valve mechanism, the combination, with the main slide-valve having escape-ports therein, of a supplemental rotating or disk-valve, a guard-ring for said valve, and a suitable arbor and controlling mechanism for said valve, substantially as described. 7th. In slide-valve mechanism, the combination, with the main slide-valve having escape-ports therein, of a supplemental rotating or disk-valve for said ports having its arbor formed integral therewith, and suitable mechanism for turning said arbor, substantially as described. 8th. In slide-valve mechanism, the combination, of the main chambered slide-valve having suitable escape-ports therein, of a supplemental disk-valve located within said main slide-valve and adapted to control the escape-ports thereof, the escape-ports of said main valve and the apertures of said disk-valve being relatively arranged, substantially as described. 9th. In slide-valve mechanism, the combination, with the hollow main slide-valve having escape-ports therein, and a supplemental valve within said slide-valve, of the spring for holding said supplemental valve to its seat, substantially as described. 10th. In slide-valve mechanism, the combination, with the main slide-valve having suitable escape-ports therein, of a supplemental rotating or disk-valve journaled with said main valve, and a coiled spring on the arbor of said supplemental valve for pressing it against its seat, substantially as described. 11th. In slide-valve mechanism, the combination of the chambered slide-valve having the cover D, the central portion D₂, and port-plate D₁, and having the ports d₁, d₂, d₃, d₄, spaces d₅ and end ports d₇, the supplemental valve E₁ having apertures e₁ and e₂ therein, the arbor E₂, the crank K and rod L, substantially as described.

No. 25,715. Fanning Mill. (*Tarare Cribleur.*)

Duncan C. McCaig, Joseph Martin and Smith Curtis, Portage la Prairie, Man., 13th January, 1887; 5 years.

Claim.—1st. The combination of the box Z with its slide G, with the fanning mill at O, T, and with the cups A on belt B, driven on the rollers C and D by chain or belt F, which is driven by wheel E, which is driven by drive wheel R, as and for the purpose hereinbefore set forth. 2nd. The combination of the frame M with the box Z, and with the springs I, and with the spring N, and also with the slide P, as and for the purpose hereinbefore set forth. 3rd. The combination of the weights H, H, with the fans h, h, as and for the purpose hereinbefore set forth.

No. 25,716. Box Nailing Machine.

(*Machine à Clouer les Boîtes.*)

William S. Doig, (assignee of Thomas L. Smith and William S. Doig,) Brooklyn, N.Y., U.S., 13th January, 1887; 5 years.

Claim.—1st. In a box-nailing machine, the combination of a nail box and punch-operating mechanism, with one or more graduated intermittently-revolving cams, substantially as and for the purpose stated. 2nd. In a box-nailing machine, the combination of the frames or mechanism supporting the nail boxes and punches, with a cam or cams arranged on a shaft operated intermittently by a ratchet motion connected to the cross-head, nail box and punch-holding mechanism and operated by it in its vertical movements, substantially as shown and described. 3rd. In a box-nailing machine, the combination, with a nail box and punch and its operating mechanism, with a cam or cams fixed on a shaft supported and controlled in position by pivoted adjustable levers, substantially as shown and described. 4th. In a box-nailing machine, the combination of a nail-controlling and driving mechanism, with one or more box end guide stops controlled into and out of position, for the proper insertion of the nails and the regulation of the position of the parts to be nailed, by means of intermittently-rotating cams and springs, substantially as shown and described. 5th. The combination of the nail-controlling and driving mechanism with the lever k₁, ratchet device k₂, k₃, cam K, shaft K₁, adjustable pivoted rods L, L, and a rod guide or guides g, substantially as shown and described. 6th. The combination of the nail box frame of a box-nailing machine, of one or more independently adjustable and removable nail boxes N₁, supported and controlled in position, substantially as shown and described. 7th. In a box-nailing machine, the combination of a nail box frame provided with a slotted extension H₂, with the independently-adjusted nail

boxes H₁, bolts h₄ and a check nut or check nuts h₅, substantially as shown and described. 8th. In a box-nailing machine, the combination of the punch-holding frame with an independently-detachable punch or punches, controlled in position by a removable locking plate or plates j, substantially as shown and described. 9th. In a box-nailing machine, the combination of a punch-holding frame formed with a slotted or grooved extension, with one or more punches l, with corresponding hook-shaped heads i and a removable locking plate or plates j, substantially as shown and described. 10th. In a box-nailing machine, the combination of the shaft B and a clutch, for connecting and disconnecting the said shaft and the driving means, and a series of levers operated by a treadle adapted to throw the clutch into connection with the driving means, and also a revolving surface adapted to automatically throw the clutch out of connection with the driving means, substantially as and for the purpose described. 11th. The combination of a box-holding table or support of a box-nailing machine, with the adjustable screw-support N₂, chain wheels N₆, N₈, chain I and hand wheel N₉, the whole being arranged and constructed to operate substantially as shown and described. 12th. In a box-nailing machine, the combination of the cam-operating shaft k₁ and a cam or cams k₂, of an index wheel M, substantially as and for the purposes described. 13th. In a box-nailing machine, the combination of the cam-operating shaft k₁ and a cam or cams k₂, with an index wheel M provided with removable indicating plates m, substantially as and for the purpose described. 14th. In a box-nailing machine, the combination of the framing A, the punch and the nail-controlling mechanism with a stop or stops x, adapted to regulate the extent of the backward movement of the said mechanism, substantially as and for the purpose described. 15th. The combination, with the nail-feeding mechanism of a box-nailing machine, of a nail feeder pan supported, in connection with the nail-feeding mechanism, by pivots and bearings capable of allowing of the automatic vertical adjustment of the front of the nail feeder pan in relation to the rear of the nail-feeding mechanism, substantially as and for the purpose shown and described. 16th. The combination, with the nail-feeding mechanism of a box-nailing machine, of a nail-feeder pan having plates forming railways extending over the plates, forming the nail ways of the nail-feeding mechanism, substantially as shown and described. 17th. The combination, with the nail-feeding mechanism of a box-nailing machine, of a nail-feeder pan supported by pivots and bearings capable of allowing of automatic vertical adjustment of the said pan in relation to the feeding mechanism, and provided with a series of plates forming nail ways, extending over the ends of the plates forming the nail ways of the feeding mechanism, substantially as shown and described. 18th. In a box-nailing machine, the combination, with a nail-feeder pan provided with plates in its bottom forming ways for the reception and guidance of the nails, of a pivoted way clearing bar, substantially as and for the purpose described. 19th. The combination, with the nail-feeder pan of a box-nailing machine, of the laterally adjustable way-plates o₃, substantially as and for the purpose described. 20th. The combination, with the nail-feeder pan of a box-nailing machine, of the laterally adjustable way-plates o₃, and removable curved extensions o₆, substantially as shown and described. 21st. In the nail-feeding mechanism of a box-nailing machine, a series of pairs of way-plates having one of each pair of plates correspondingly carried by a separate frame or support, one of said frames or supports being adjustable laterally in relation to the other, substantially as and for the purpose stated. 22nd. In combination with the nail-feeding mechanism of a box-nailing machine, of a pair of laterally adjustable way plate-supporting frames, controlled in position in relation to each other by adjusting-screws, substantially as shown and described. 23rd. In a box-nailing machine, the combination, with the nailways of the feeding mechanism, of a series of railway stops supported on a bar capable of a compound horizontal and vertical motion, substantially as and for the purpose described. 24th. In a box-nailing machine, the combination, with the nailways of the nail-feeding mechanism, of a series of railway stops supported by bars capable of independent or collective action, substantially as and for the purpose stated. 25th. In a box-nailing machine, the combination, with the nailways of the feeding mechanism, of a series of railway stops mounted on blocks or carriers capable of interchangeable attachment to one or other of a pair of supporting and operating bars capable of independent or collective action, substantially as and for the purpose described. 26th. In a box-nailing machine, the combination with the nailways of the nail-feeding mechanism, of a series of pivoted and tilting railway stops, supported and controlled in position by a bar having a horizontal and vertical motion, substantially as and for the purposes described. 27th. In a box-nailing machine, the combination, with the nailways of the feeding mechanism, of a series of pivoted and tilting railway stops provided with hooks or projections at their lower ends, and supported and controlled in position by a pair of bars having a horizontal and vertical motion, the railway stops being capable of attachment to the said bars in any desired manner, substantially as and for the purpose described. 28th. In a box-nailing machine, the combination, with the nailways of the nail-feeding mechanism, of a series of pivoted and tilting railway stops, supported and controlled in position by bars controlled in position laterally by a cam or cams, substantially as shown and described. 29th. In a box-nailing machine, the combination, with a railway of a box nail-feeding mechanism, of a pivoted stop S formed with a hook s₂₀ at its lower end, a stop s₁₆ and retaining spring s₁₅, substantially as and for the purpose described. 30th. In a box-nailing machine, the combination, with a pair of railway stop-supporting bars, of a cam adapted to impart lateral motion to one or both of the said bars, and a cam surface adapted, either intermittently or at will, to arrest the motion of one of the said bars, substantially as and for the purpose stated. 31st. In a box-nailing machine, the combination, with a pair of railway stop-supporting bars, of a series of stop-holding blocks and railway stops, and a series of removable pins or screws adapted to engage by change of position, any or all of the series of stop-holding blocks with either of the said supporting bars, substantially as and for the purpose described. 32nd. In a box-nailing machine, the combination, with a series of nail-guiding ways and a series of railway stops controlled in position by a bar or bars, of a series of painters, a series of pointer-operating cams mounted on a common shaft, and a bar-