

stantially as described. 5th. In an apparatus of the character described, the combination with the parallel guides having longitudinal slots on their inner sides, of the carrying chains adapted to pass together through the guides, one chain being longitudinally grooved and the other having projecting spurs to fit in the groove, substantially as described. 6th. In an apparatus of the character described, the carrying mechanism comprising longitudinally slotted parallel guides adjustable to and from each other, and the clamping chains adapted to move together through the guides, substantially as described. 7th. In an apparatus of the character described, the combination of the longitudinally slotted guides, the carrying chains adapted to move through them, and mechanism for adjusting the guides in relation to each other, substantially as described. 8th. In an apparatus of the character described, the combination of parallel, longitudinally slotted guides, the clamping chains adapted to move together through the guides, the slideways arranged transversely beneath the guides, the guide supports adapted to slide in the slideways, and the screws for actuating the supports, substantially as described. 9th. In an apparatus of the character described, the combination of longitudinally slotted parallel guides arranged in tiers as described, the carrying chains held to move longitudinally through the several guides, the connected supports for sustaining the guides, and a screw mechanism for moving the guides laterly, substantially as described. 10th. The combination, with the carrying chains and guides and the dipping tanks, of reciprocating brushes arranged between the tanks and guides adapted to infringe upon the fabric carried by the chains, substantially as described. 11th. The combination, with the carrying chains and guides, of dipping tanks arranged adjacent to the guides, and reciprocating and rotating brushes arranged between the guides and tanks and in the path of the fabric carried by the chains, substantially as described. 12th. In an apparatus of the character described, the rotary brushes made up in double sections bolted together and fastened to a shaft, substantially as described. 13th. The combination with the guides, the carrying chains and a winding mechanism, of the cutting disks arranged in pairs at the delivery ends of the guides, substantially as described. 14th. In an apparatus of the character described, the combination with the guides and carrying chains of the winding mechanism comprising a driving shaft having a friction pulley thereon, a winding roller mounted above the shaft and provided with a pulley, and a treadle mechanism for forcing the pulleys together, substantially as described. 15th. In a machine of the character described, the combination with the slotted guides, of guide pulleys arranged in pairs at the front end of the lower guides, the pulleys being arranged one above another, and clamping chains adapted to converge between the pulleys and move together through the guides, substantially as described.

No. 42,473. Manufacture of Treads or Coverings for Floors, Stairs and the like. (*Fabrica ion de couvertures pour planchers, escaliers, etc.*)

Jonathan Mason, Joseph Mason and William Squires Codner, London, England, 5th April, 1893; 6 years.

Claim.—1st. In "treads" or coverings for floors, stairs and the like, a base plate with dividing strips or ribs on its surface and intermediate openings for the reception of anti-slipping filling material strips, as and for the purpose herein set forth. 2nd. The combined "tread" covering or strip having a base plate with ribs on its surface, furnishing a dovetailed opening intermediate of said ribs for the reception of an anti-slipping filling material strip, as and for the purpose herein set forth. 3rd. The combined "tread" covering or strip having the plate *a*, the open V-ribs *a'*, the intermediate openings *a''*, and the filling pieces *b*, held by the arms of the V's, as and for the purpose herein set forth. 4th. In treads or coverings as set forth, the headed buttons, studs or staples *c*, for holding the filling pieces *b*, as herein described and shown. 5th. In the manufacture of treads for floors, stairs and the like; first, rolling or stamping a base plate to produce thereon raised ribs, with V-shaped depressions running longitudinally of their length and separated by vacant spaces; secondly, re-rolling said plate to further open or spread said depressions in the ribs; thirdly, chilling said plate to harden it; fourthly, introducing anti-slipping material or substance into the vacant spaces between the ribs, and, finally, rolling or pressing the whole as set forth.

No. 42,474. Pulp Screening Machine.

(*Tamis pour la pulpe.*)

Charles Joseph Foster, Gray, Maine, U.S.A., 5th April, 1893; 6 years.

Claim.—1st. In a pulp screening machine, the combination of the balancing piston diaphragms *D*, *D'*, having packings *H*, *K*, as described, the troughs *L*, the screen plates and tank all adapted to form a bellows or suction screen without the use of leather or other flexible packing, substantially as and for the purpose set forth. 2nd. In a pulp screening machine, the combination of the balancing piston diaphragms *D*, *D'*, having packings as described, with the air pipes *P*, having check valve *P'*, and regulating valve *P''*, operating, substantially as and for the purpose set forth. 3rd. In a pulp screening machine, the combination of the balancing piston diaphragms *D*, *D'*, having packings as described, with outlet pipe *N*, having valves as described, and adapted to operate, substantially as and

for the purpose set forth. 4th. In a pulp screen, the combination with a tank of a screen within said tank, a pair of piston diaphragms beneath said tank, open ended cylinders within which said piston diaphragms move, piston rods connecting said pistons with the opposite ends of the rocking beam, or other equivalent mechanism, whereby the said piston diaphragm will counter balance each other, and means for operating said rocking beam, substantially as described.

No. 42,475. Feeding Device for Threshing Machines.

(*Appareil à alimenter les machines à battre.*)

John P. Momett, Rensselaer, Indiana, U.S.A., 5th April, 1893; 6 years.

Claim.—1st. In a threshing machine, the combination with the throat or hopper, of the fixed feed board, the pusher rods operating in said throat partially beneath the feed board, and provided with the branch rods which extend over the feed board, the fixed guides arranged below the feed board and receiving the pusher rods, and the crank shaft for reciprocating the pusher rods longitudinally of the hopper, as and for the purpose described. 2nd. In a threshing machine, the combination with the throat or hopper, of the guides situated in the throat or hopper, the detachable feed board fitted within the forward end of the throat or hopper, and the branched or divided pusher rods arranged within the hopper, and each having one member connected to the operating crank, and the other member extending over the feed board, said pusher rods being provided with a series of upwardly extending fingers, as and for the purpose described. 3rd. In a threshing machine, the combination with the throat or hopper, of the inclined feed board, the branched pusher rods arranged along the bottom of the throat or hopper and over the feed board, said rods being provided with upwardly extending inclined fingers, the double crank shaft having the cranks thereon situated on opposite sides of the axis of the shaft, and connections below the feed board and intermediate of the pusher rods and the cranks of the crank shaft, as and for the purpose described. 4th. In a threshing machine, the combination with a throat or hopper, of a series of parallel pusher rods arranged in the bottom of the throat or hopper, and provided with upwardly extending fingers, a detachable feed board arranged above the pusher rods, a series of parallel rods provided with upwardly extending fingers and attached to the main pusher rods and extending over the feed board, and mechanism, substantially as described, for reciprocating the pusher rods over the surface of the bottom of the hopper and the feed board, as and for the purpose described. 5th. In a threshing machine, the combination of the throat or hopper, a fixed feed board, a series of pusher rods provided with the branches which extend over the feed board, the guides arranged below the feed board and receiving the pusher rods, a double crank shaft supported at the rear of the hopper over the inner ends of the pusher rods, a series of fingers carried by said shaft, and two horizontal oscillating bars journaled in the side walls of the throat or hopper and receiving the fingers on the crank shaft, as and for the purpose described.

No. 42,476. Combination Tool. (*Outil à combinaison.*)

Edward Alexander Cochran, Oak Park, Illinois, U.S.A., 5th April, 1893; 6 years.

Claim.—1st. The combination of a wrench bar, having a fixed jaw and a movable jaw which slides on the wrench bar, said movable jaw consisting of a steel blank bent to provide perforated arms *G*, *G*, and flat spring *H*, together with the block *I*, held between the perforated arms *G*, *G*, substantially as described. 2nd. The combination of the bar *D*, having a fixed jaw, and the movable jaw, consisting of a steel blank bent to form parallel arms *G*, *G*, and flat spring *H*, with roughened face *G'*, the arms *G*, *G*, being perforated at *g*, *g*, and the serrated block *I*, having lateral lugs or bosses *J*, *J*, that enter perforations *g*, substantially as described. 3rd. The combination with the bar *D*, having a fixed jaw and a serrated face *d*, and also a corrugated scale *E*, the graduations of said scale corresponding to the number of teeth *d*, of the movable jaw consisting of the serrated block *I*, whose serrations *i* engage the serrations *d*, said block having lateral bosses *J*, and the frame having arms *G*, *G*, and flat spring *H*, said arms *G*, *G*, supporting the block *I*, and said spring *H*, bearing on the opposite side of the bar *D*, all substantially as described.

No. 42,477. Device for Utilizing the Water Power of Falls. (*Appareil pour utiliser les pouvoirs d'eau des chutes.*)

Christian Jacob Zeiting, Della, Maryland, U.S.A., 6th April, 1893; 6 years.

Claim.—1st. The combination of the coffer dam arranged above the falls and having a port in its side, a turbine whose casing is connected with said port, and a race leading from the said turbine through the bed of the river to a point below the falls, substantially as set forth. 2nd. In a device for utilizing waste water power, the combination of the coffer dam sunk to the bed rock above the falls of the river, the vertical shaft sunk through said bed rock from within said coffer dam, the drift shaft connected to the vertical shaft and opening out at the foot of the falls, the tubular suction cylinder that passes through said vertical shaft and drift, and the pendant