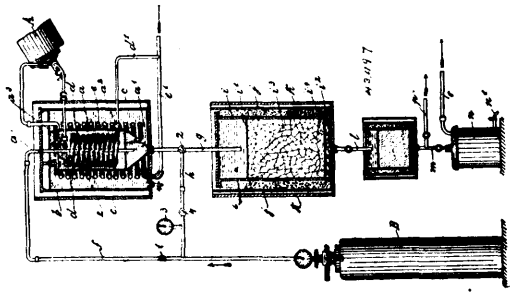
dovetail guide rail E, the movable boxes H, held thereon, the lever F, pivoted thereon between the boxes, the link arms h h^1, connecting such boxes, with the lever F, to the front and rear of its fulcrum and the arms H^1, connecting such boxes, and the saw hubs, all as and for the purpose described. 3rd. In a stave trimming and jointing machine, the combination with the main frame, and the transverse yoke j^x, formed with bearings j, at its outer ends, and the boxes and bearings j^1, j^2, supported on the side beams a^x, of the main frame, of the hollow shafts J^1, mounted in the bearing j^1, j^2, the shafts J, longitudinally movable in and held to turn with the hollow shafts J^1, and the saws I, mounted on the inner ends of the shafts J, lever mechanism for simultaneously adjusting the saw shafts J, inward or outward, and means for rotating the shafts J^1, all substantially as shown and for the purpose described. 4th. In a stave jointing machine, in combination, the endless carrier, the cutter frames and cutters, held to be rocked laterally to such carrier, bilge forming devices connected therewith, spreader arms connected with the cutter frames, projected in advance thereof, to be engaged by the passing stave, such arms having adjustable fulcrums on the main frame at the rear of the cutter frames, all arranged, substantially as shown, whereby the front contact faces of the arms can be adjusted to set the cutters to cut a greater or less bilge, by adjusting the fulcrums of such arms to or from the cutters, as and for the purpose described. 5th. In a stave jointing machine, the combination with the main frame, the endless carrier and the laterally swinging cutter frames, of the spreader arms A^5, pivotally connected near their front ends to the cutter frames, such front ends having contact faces adapted to be engaged by the passing stave, the longitudinally arranged guide rods a^1, on the main frame, the transverse rod a^8, adjustably held thereon, and the slide blocks a^7, longitudinally adjustable to the rear ends of the arms A^5, and transversely adjustable on the rod a^8, all substantially as and for the purpose described. 6th. In a stave jointing machine, the combination with the main frame, the swinging cutter frames and cutters and the endless carrier passing between such cutter frames bilge forming devices, including rocker head blocks and plungers operating therein, link arms on the cutter frames pivotally connected with the plunger rods, intermittently operated gear devices, including reciprocating arms connected to the swinging head blocks, and lock cams for holding the plungers to their adjusted position, all arranged to be automatically and successively operated by the moving stave, and whereby the movement of the cutter frames will set the plungers to determine the bilge movement of such cutter frames whereby such movement is rendered continuous during the passage of the stave between the cutters as set forth. 7th. In a stave jointing machine, the combination with the swinging cutter frames, the rotary cutters mounted thereon and mechanism for carrying the billet between such cutters, of bilge formers arranged to be set to their initial position by the lateral or swinging movement of the cutter frames, devices for holding such formers to their adjusted position, and intermittent gear mechanism arranged to be set in operation by the passing stave and adapted to impart a reciprocating motion to the formers whereby to move the cutter frames on a proper bilge curve as and for the purpose described. 8th. In a stave jointing machine of the class described, the combination with the swinging cutter frames and the rotary cutters mounted thereon, of a bilge forming device, comprising tubular rocker frames pivoted on the main frame, plunger rods movable therein, link arms pivotally connected to such rods and to the swinging cutter frames, whereby to move such plungers, as the cutters frames are swung on their pivotal axis, means for holding the tubular frames to their normal position, and locking devices adapted to lock the plunger rods from movement when the tubular frames are rocked substantially as and for the purpose described. 9th. In a stave jointing machine of the class described, the combination with the laterally swinging cutter frames and the revolving cutters mounted therein, of the tubular head blocks D^5, slotted on their upper and lower faces, the plunger rods D^6, operating therein, the link arms d^5 pivotally connecting the plungers and the swinging cutter frames, the cams W pivoted on the head blocks D^5 adapted to be out of contact with the plungers when the head blocks are in their normal positions, and to engage the said plungers when such blocks are swung on their pivots, and means for rocking such head blocks, all substantially as and for the purpose described. 10th. In a stave jointing machine of the class described, the combination, with the laterally swinging cutter frames and the revolving cutters mounted therein, the swinging tubular head blocks pivoted to the sides of the main frame, the plunger rods longitudinally movable thereon, the pivoted link connections d^5, and the cam devices W^5 for engaging the plunger rods, of the drive shaft M^5, the shaft n^5 geared therewith, provided with a gear N^5, the rotary shaft K^5, a swinging gear connection M^6 mounted thereon, the rock shaft G^5 connected with the shaft K^5 and operated thereby, the crank arms g^5 on said shaft G^5, the rods F^5, connecting such crank arms and the head blocks, and mechanism connected to the swinging gear connection M^6, adapted to be engaged by the passing stave whereby to gear the shafts K^5 and n^5, together during the operation of cutting, all substantially as and for the purpose described. 11th. In a stave jointing machine of the class described, the combination with the main frame A, the drive wheels L, L^1, the endless carrier mounted thereon, the laterally swinging cutter carrying frames, the bilge former head blocks pivotally mounted for a rocking movement on the main frame connected with the cutter frames, the shafts G^5, formed with slotted crank arms g^5, g^5, the rods F^5, adjustably secured at their upper ends in said slotted cranks g^5, their lower ends pivotally connected with the rocking head blocks and mechanism for imparting a rocking motion to the shaft G^5, during the operation of forming the bilge cut on the billet, all substantially as and for the purpose described. 12th. In a stave jointing machine, substantially as described, the combination, with the cutter and the bilge forming mechanism, including the head blocks adapted to be set to their initial point of operation by the passing billet, and the shaft n^5, geared with one of the drive shafts of the machine, of the shaft K^5, provided with a gear k^5, the swinging frame M^6 held on the shaft K^5, carrying an idler m^5, the lifting arm S^5, hung in the path of the moving billet in advance of the cutters, the rod T^5, connecting the frame M^6 and the arm S^5, and formed with a rearward extension t^5, and connections between the shaft K^5, and the head blocks for imparting a rocking motion thereto, all as and for the purpose described. 13th. In a stave jointing machine, substantially as described, the combination, with the shaft K^5, the drive shaft n^5, the swinging gear carrying frame M^6, and the pivotal lifter arm S^5, of the rod T^5, pivotally connected with the arm S^5, at its front end, a block U^5, pivotally connected to the swinging frame M^5, such rod T^5, having a yielding connection in the block U^5, at its rear end, as and for the purpose described.

No. 43,497. Apparatus for Separating Solid or Fluid Substances. (*Appareil pour séparer les substances solides ou fluides.*)



Carl Weitenkampf, assignee of Heinrich Deiswiger, both of Berlin, German Empire, 6th July, 1893; 6 years.

Claim.—1st. An apparatus for separating solid or fluid substances dissolved in alcohol, ether or chloroform without evaporation of the solvent, consisting of the reservoir a, provided with cooling case b, and protecting case c, and capable of being made particularly cold by worms such as d, e, which reservoir is connected with the filtering chambers and also to the carbonic acid holder by a pipe f, substantially as and for the purpose hereinbefore set forth. 2nd. The combination and in connection with one or more filtering vessels connected between themselves, each consisting of a closed holder which holds the filtering material arranged between the sieves, and is kept at a constant temperature by a cooling and heat protecting case or surrounding, substantially as and for the purpose hereinbefore set forth. 3rd. The combination and acting in conjunction with means for returning the carbonic acid from the worms d, e, and from the delivery pipe m, and the holder n, to the carbonic acid reservoir for the purpose of being again used over and over again for cooling or saturating the solutions intended to be purified, substantially as and for the purpose hereinbefore set forth. 4th. The combination with apparatus such as hereinbefore described, of the connection pipe f, with stop cock therein and a shut off branch pipe h, so as to shut off the cooling holder a, after being emptied and to permit the refilling thereof with fresh solution so as to prepare and cool same without interfering with the filtering operation, substantially as described and shown in the drawings.

No. 43,498. Process of Separating Solid or Fluid Substances. (*Procédé pour séparer les substances solides ou fluides.*)

Carl Weitenkampf, assignee of Heinrich Deininger, Berlin, Empire of Germany, 6th July, 1893; 6 years.

Claim.—The herein described process for separating solid or liquid substances dissolved in alcohol, ether or chloroform without evaporating the solvent, and in which the solution is first cooled to a temperature of about 20° to 25° C, is then saturated under pressure with carbonic acid, and is lastly made to pass through filtering materials, the same conditions of pressure and temperature being maintained throughout by the means and in the manner, substantially as described.