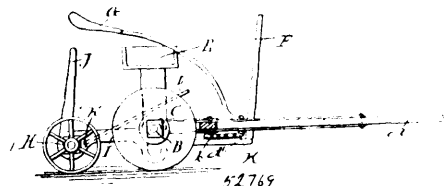


pressure trap, a return pipe leading from the refrigerating conduit into the low-pressure trap, a pipe connecting the low-pressure trap with the said induction chamber, a pipe leading from the high-pressure trap to the condenser, and a pipe leading from the eduction chamber into the high-pressure trap, substantially as described. 7th. In a refrigerating machine, the combination with the shaft chamber, the compressor and its induction and eduction chambers, the condenser and the refrigerating conduit, of a return conduit extending from the refrigerating conduit to the said induction chamber, a low-pressure trap interposed in said return conduit, an outlet conduit leading from the said eduction chamber to the condenser, a high-pressure trap interposed in the said outlet conduit, a heat-conducting wall separating the traps and operating as means for communicating the temperature of one trap to the other, thereby modifying the temperature of the other, a drainage pipe provided with a valve and extending from the lower part of the high-pressure trap into the low-pressure trap, and a pipe extending from the lower part of the low-pressure trap to the shaft chamber, substantially as and for the purpose set forth. 8th. In a refrigerating machine, the combination, with the shaft-chamber, the compressor and its induction and eduction chambers, the condenser and the refrigerating conduit, of a casing having two chambers separated by a wall, and forming, respectively, a low-pressure trap and a high-pressure trap, a return-pipe leading from the refrigerating conduit into the low-pressure trap, a pipe connecting the low-pressure trap with the said induction chamber, a pipe leading from the high-pressure trap to the condenser, a pipe leading from the said eduction chamber into the high-pressure trap, a pipe provided a valve and extending from the lower part of the high-pressure trap to the low-pressure trap, and a pipe extending from the lower part of the low-pressure trap to the shaft chamber, substantially as and for the purpose set forth. 9th. In a refrigerating machine, the combination, with the compressor and its induction and eduction chambers, the condensing chamber and the refrigerating conduit, of a casing having a chamber forming a low-pressure trap and a chamber extending downward into the condensing chamber and forming a high-pressure trap, a return pipe extending from the refrigerating conduit into the low-pressure trap, a pipe leading from the upper portion of the low-pressure trap to the said induction chamber, a pipe extending from the said induction chamber into the lower part of the high-pressure trap, and a pipe extending from the upper part of the high-pressure trap to the condensing chamber, substantially as and for the purpose set forth. 10th. In a refrigerating machine, the combination with the compressor and its induction and eduction chambers, the condensing chamber and the refrigerating conduit, of a casing having a chamber forming a low-pressure trap and a chamber extending downward into the condensing chamber and forming a high-pressure trap, a return pipe extending from the refrigerating conduit into the low-pressure trap, a pipe leading from the upper portion of the low-pressure trap to said induction chamber, a pipe extending from the said eduction chamber into the lower part of the high-pressure trap, deflectors in the high-pressure trap between the outlet from said pipe and the top of the trap, and a pipe extending from the upper portion of the high-pressure trap to the condensing chamber, substantially as and for the purpose set forth. 11th. In a refrigerating apparatus, a fluid-pressure regulator, having a valve-operating mechanism, comprising pressure-actuated, differentially moving, co-acting diaphragms connected with the valve-stem, whereby the valve is operated by differentiation due to accumulation of pressure, substantially as described. 12th. In a refrigerating apparatus, a fluid-pressure regulator, having a valve-operating mechanism, comprising in combination with the valve, diaphragms receiving uniformly the fluid-pressure, and a lever connection at said diaphragms and valve affording a differential leverage, whereby on accumulation of pressure a power sufficient to operate the valve is obtained by differentiation of movement of the diaphragm, substantially as described. 13th. In a refrigerating apparatus, a fluid-pressure regulator, having a valve-operating-mechanism, comprising in combination with the valve, diaphragms receiving uniformly the fluid-pressure, and an adjustable lever-connection at said diaphragms and valve affording a differential leverage, whereby on accumulation of pressure a power sufficient to operate the valve is obtained by differentiation of movement of the diaphragms, substantially as described. 14th. In a refrigerating apparatus, a fluid-pressure regulator, comprising in combination, a chamber or casing having an inlet-port from the supply-pipe and an outlet to the refrigerating conduit, separate diaphragms at said chamber differentially movable under pressure therein, a valve at said inlet port connected with one of said diaphragms, and a lever-connection between the diaphragms adjustable to change the relative resistance of the diaphragms against movement under pressure in the chamber, substantially as and for the purpose set forth. 15th. In a refrigerating apparatus, a fluid-pressure regulator, comprising, in combination, a chamber or casing having an inlet port from the supply-pipe and an outlet to the refrigerating conduit, separate diaphragms at said chamber movable under accumulated pressure therein, a valve at said inlet port connected with one of said diaphragms, a lever connected at opposite end-ports with the respective diaphragms, and a screw-actuated sliding-block mounted upon the casing and affording a shifting fulcrum for the lever between the ends of the latter, substantially as and for the purpose set forth. 16th. The combination with a refrigerating conduit and a storage chamber through which the

conduit passes, of a passage between the liquid-refrigerant supplier and refrigerating conduit, a valve at said passage, and thermostatic mechanism in said chamber communicating with the said valve and operating under rise of temperature in said chamber to produce opening movement of the valve, substantially as and for the purpose set forth. 17th. The combination with a refrigerating conduit and a storage chamber through which the conduit passes, of a passage between the liquid-refrigerant supplier and refrigerating conduit, a valve at said passage, valve-opening mechanism and a fluid thermostatic column in said chamber communicating with said valve-opening mechanism and operating under rise of temperature in said chamber to produce opening movement of the valve, substantially as and for the purpose set forth. 18th. The combination with a refrigerating conduit and a storage-chamber through which the conduit passes, of a passage between the liquid-refrigerant supplier and said conduit, a valve at said passage, a fluid thermostatic column in said chamber communicating with the said valve and operating under rise of temperature in the said chamber to produce opening movement of the valve, and regulating means for the said thermostatic column, substantially as and for the purpose set forth. 19th. The combination with a refrigerating conduit and a storage-chamber through which the conduit passes, of a passage between the liquid-refrigerant supplier and said conduit, a movable abutment at said passage, a valve in the said passage operatively connected with the said abutment, a fluid thermostatic column in the said chamber, a movable abutment at said thermostatic column, and a fluid column confined between said movable abutments, whereby in the expansion of the thermostatic column pressure is exerted through the abutments and intervening column to produce opening movement of the said valve, substantially as and for the purpose set forth. 20th. The combination with the refrigerating conduit and a storage-chamber through which the conduit passes, of a passage between the liquid-refrigerant supplier and said conduit, a movable abutment at said passage, a valve in the said passage operatively connected with the said abutment, a fluid-thermostatic column in the said chamber, movable diaphragms between which the said thermostatic column is confined, adjusting means at one of said diaphragms operative to increase and diminish the pressure of the diaphragm against the column, and a fluid-column confined between the other said diaphragm and the said valve operating abutment, whereby in the expansion of the thermostatic column pressure is exerted thereby through the said fluid-column against the said abutment to produce opening movement of the said valve, substantially as and for the purpose set forth.

No. 52,769. Disk Harrow. (*Herse à disque.*)



Lars T. Wicks, Newark, George W. Gurley, Sandwich, both of Illinois, U.S.A., and Nelson Hickey, Montreal, Quebec, Canada, 26th June, 1896; 6 years. (Filed 27th May, 1896.)

Claim. 1st. In disk harrows, the combination with the disks thereof and their carrying means, of a supplemental device adapted to raise said disks and their carrying parts from the ground, for the purpose set forth. 2nd. In disk harrows, the combination with the disks thereof and their carrying means, of a supplemental trailing device connected to said disk carrying means, and adapted to raise said disks and their carrying parts from the ground, and means for tilting said trailing device, for the purpose set forth. 3rd. In disk harrows, the combination with the disks thereof and their carrying means, of a supplemental trailing device detachably connected to said disk carrying means, and adapted to raise said disks and their carrying parts from the ground, and means for tilting said trailing device, for the purpose set forth. 4th. In disk harrows, the disk-shafts, in combination with a supplemental axle of angular form in cross-section and provided with carrying-wheels, arms I, constructed at one end with angular apertures, *i*, corresponding to the angular axle, whereby they may be applied to and fixed on said axle without bolts or other like devices, having an enlarged opening at their front ends adapted to receive and engage the disk-shafts, and a detachable and adjustable connecting device between the supplemental axle and the harrow-supporting frame, substantially as described. 5th. In disk harrows, the disk-shafts, in combination with a supplemental axle, II, provided with carrying-wheels *h*, arms I, mounted at one end on said axle and at their outer or free ends provided with an enlargement or head *i*¹, having an oblong, vertical opening or slot *i*², and a side opening *i*³, about midway of the front arm enclosing said slot, and an adjustable and detachable connecting device between said supplemental axle and the main frame of the harrow, substantially as described. 6th. In disk harrows, the disk-shafts, in combination with the supplemental axle and wheels, arms I, secured at one end to said axle and at their free ends enlarged vertically to form a kind of head, *i*¹, which is constructed with an oblong slot or opening *i*², running vertically and