

G. G. CHASSE.
VALVE FOR EVAPORATING PANS.
APPLICATION FILED OCT. 20, 1908.

944,175.

Patented Dec. 21, 1909.

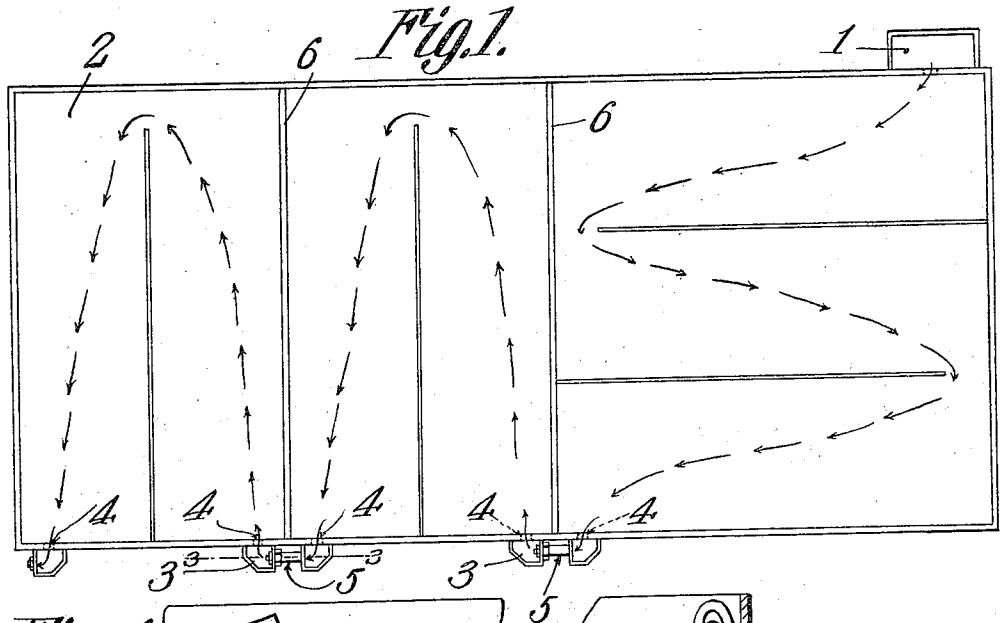


Fig. 4.

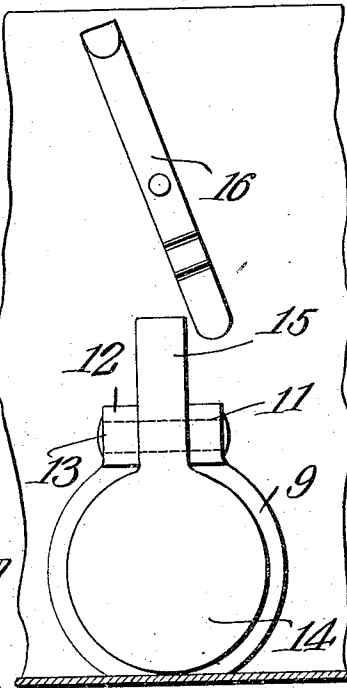
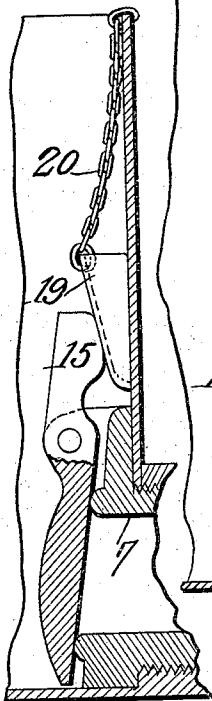
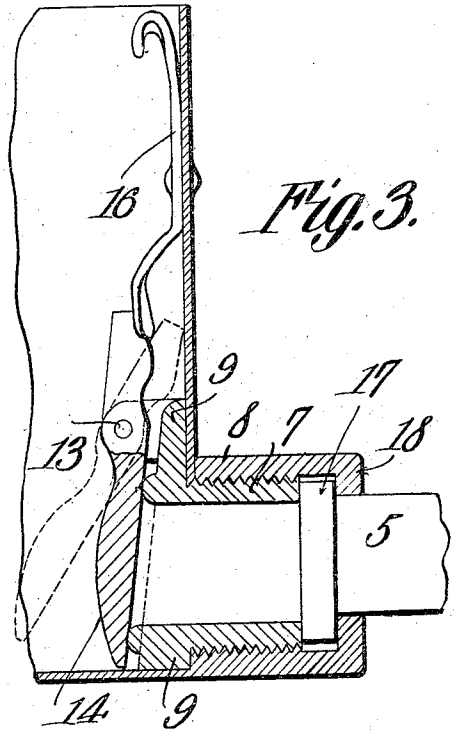


Fig. 2.



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Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE G. CHASSE, OF NORTH CRAFTSBURY, VERMONT.

VALVE FOR EVAPORATING-PANS.

944,175.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed October 20, 1908. Serial No. 458,692.

To all whom it may concern:

Be it known that I, GEORGE G. CHASSE, a citizen of the United States, residing at North Craftsbury, in the county of Orleans and State of Vermont, have invented a new and useful Valve, of which the following is a specification.

This invention relates to improvements in valves such as are used with sugar evaporators.

One object of the invention is to provide an evaporator divided into compartments each of which will be connected by a valve, constructed to open in one direction only, so that after the sap has been boiled and converted into syrup the latter will be prevented from flowing back and mixing with the former. This frequently happens after the fire has died out with the result that circulation is prevented when the fire is again started owing to the fact that the tendency of the syrup is to settle in the middle of the sap column, and since the boiling point of the syrup is somewhat lower than that of the sap, the former will frequently boil over before the sap column begins to circulate, thereby causing considerable waste and damage.

Another object is to provide a device which will be simple in structure and comparatively inexpensive to manufacture and which may be readily fitted to pans connected in series or to pans provided with partitions.

With these and other objects in view as will more fully hereinafter appear the present invention consists in certain novel details of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim, it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of this specification:—Figure 1 is a plan view of an evaporating pan fitted with my device. Fig. 2 is a front elevation of the device. Fig. 3 is a vertical section taken on line 3—3 Fig. 1. Fig. 4 is a modified form of keeper.

Similar numerals of reference are em-

ployed to designate corresponding parts throughout.

In Figs. 1 to 3 inclusive the device is shown applied to a form of pan or evaporator in which the cold sap enters at 1, and heated in the usual way, flows in the direction indicated by the arrows to the compartment 2 at the opposite end.

Communication between the several compartments is established by means of pockets 3 overlying openings 4 formed in the wall of the evaporator and unions 5 connecting the pockets. The latter are disposed on either side of the partitions 6 and adjacent the lower end of the evaporator wall on the outer face thereof and extending to the upper edge of the wall. The valves are disposed within the pockets leading to the compartments remote from the entrance of the cold sap, that is to say, that the inlet to each compartment will be controlled by a valve, while the outlet will be open at all times owing to the pivotal mounting of each valve, which is such that it will be supported parallel to the height of the evaporator. This construction permits the sap to circulate or flow during the process of evaporation from the inlet 1 to the remote compartment 4, and when the flow ceases at 1, backing or the tendency of the syrup to flow in the opposite direction will be checked by each valve closing over the opening leading to the union 5 or outlet of each compartment. The form of valve employed to perform this function consists of a cylindrical sleeve portion 7, which is adapted to be threaded or otherwise secured in a collar 8, on the outer face of the pocket overlying the inlet to each compartment, and extending parallel to the length of the evaporator. The outer end of sleeve is provided with a circumferential collar or flange 9, which is adapted to bear against the inner face of the pocket wall and form a tight joint therewith. Formed on the outer face of the collar 9 and above the opening of the sleeve and extending parallel to the axis of the latter are a pair of spaced ears 11 and 12 centrally provided with horizontal openings to receive a suitable pintle 13, which is adapted to pivotally support between the ears, the valve gate 14. The latter may be of any suitable material and is circular in shape with an exterior diameter sufficient to enable it to cover the outer opening of the sleeve 7. The gate is

provided with a vertical tongue 15 to fit between the ears 11 and 12 and the tongue has an annular opening to receive the pintle 13, the free end of said tongue extending above the ears. A suitable keeper 16 preferably formed of a single piece of metal is pivotally secured to the inner face of the pocket wall, directly above and in a vertical plane with the outer edge of the sleeve 7. The keeper is at a point substantially intermediate its support and lower end bent outwardly for a portion of its length and thence downwardly so as to lie parallel and to the rear of the gate tongue 15. Thus it will be seen when the keeper is brought to a vertical position it will lie parallel to and to the rear of the tongue so that outward movement of the valve gate will be prevented. This construction will be found very advantageous when the operation known as "syruping off" is being performed since it will permit the last compartment to be drawn off without disturbing the contents of the adjacent compartment.

25 In Fig. 4 a modified form of keeper is shown consisting of a block 19 substantially right triangular in longitudinal section and arranged to fit when in inverted position between the tongue 15 and wall of the pocket, its slant side bearing against the tongue. A suitable chain 20 or the like having one end connected to the base of the block and its opposite end to the upper edge of the pocket serves as a means for removing the block and guiding the same to enter the space between the tongue and pocket wall.

Thus it will be seen that I have provided

a device which will successfully perform its functions and which may be readily fitted to most forms of evaporators now in use, since it will be readily understood how the device could be fitted to connect several pans unlike the one illustrated, by simply forming suitable openings, for the reception of the sleeve and union, it being understood that any coupling means may be used to connect the sleeve and union.

In the form illustrated, one end of the coupling is soldered or otherwise secured to the pocket overlying the outlet opening of each pocket, while the opposite end is provided with a circular flange 17 which fits into the collar 8 having one face bearing against the inner face of the latter and the opposite face against the end of the sleeve 7.

What is claimed is:—

In apparatus of the class described a series of pans having pockets, tubular connections between the pockets of adjoining pans and constituting means for establishing communication between the pans, a valve adjacent each of said tubular connections for preventing the flow of liquid in one direction through the pans and permitting the flow of liquid in the opposite direction, and means for locking each valve to cut off all communication between the pans.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE G. CHASSE.

Witnesses:

JOSEPH MULLANEY,
DELPHIS CHASSÉ.