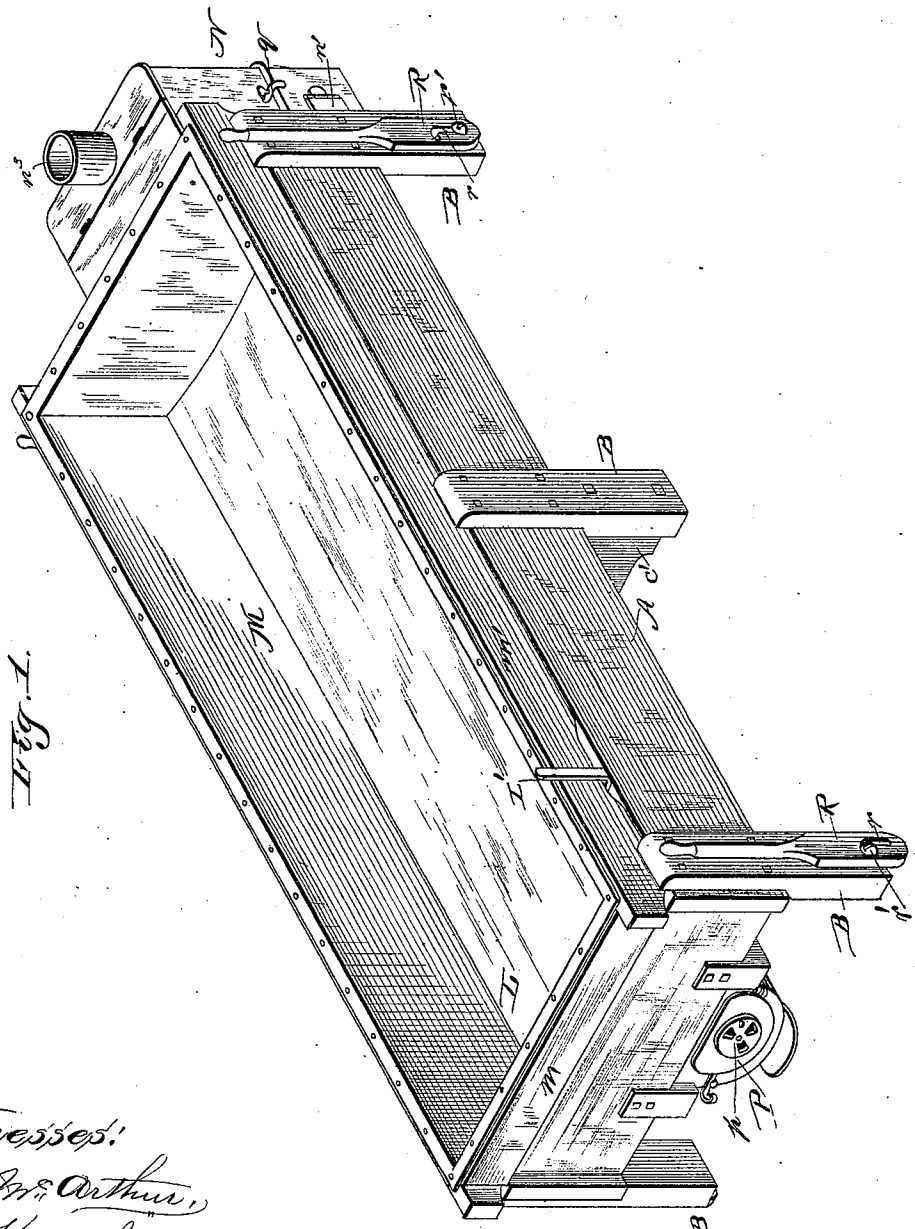
(Model.) 3 Sheets—Sheet 1.

G. H. SIMON.

CHEESE VAT.

No. 253,118. Patented Jan. 31, 1882.



Witnesses:
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A. R. Keyworth.

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(Model.) 3 Sheets—Sheet 2.

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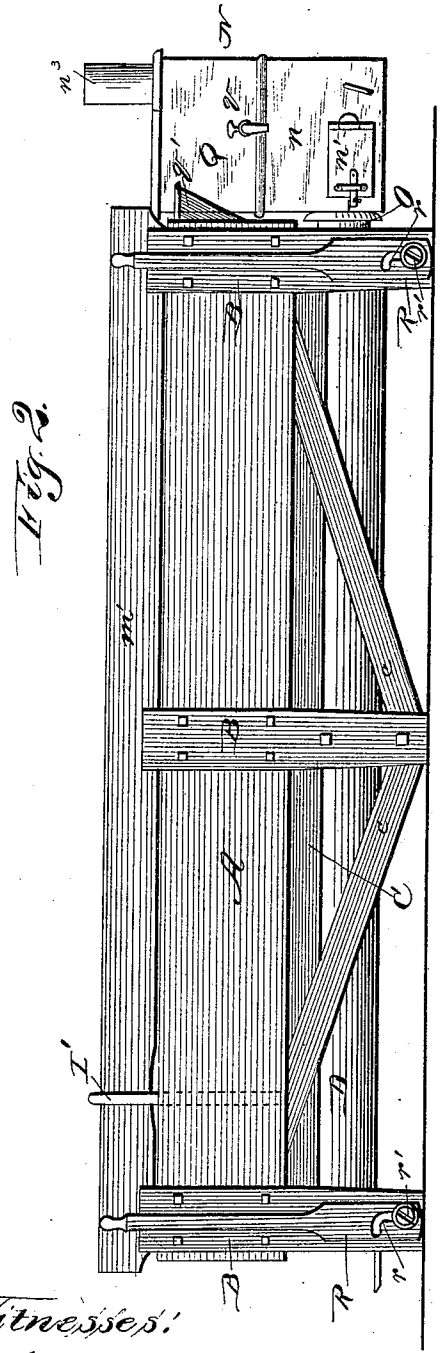


Fig. 2.

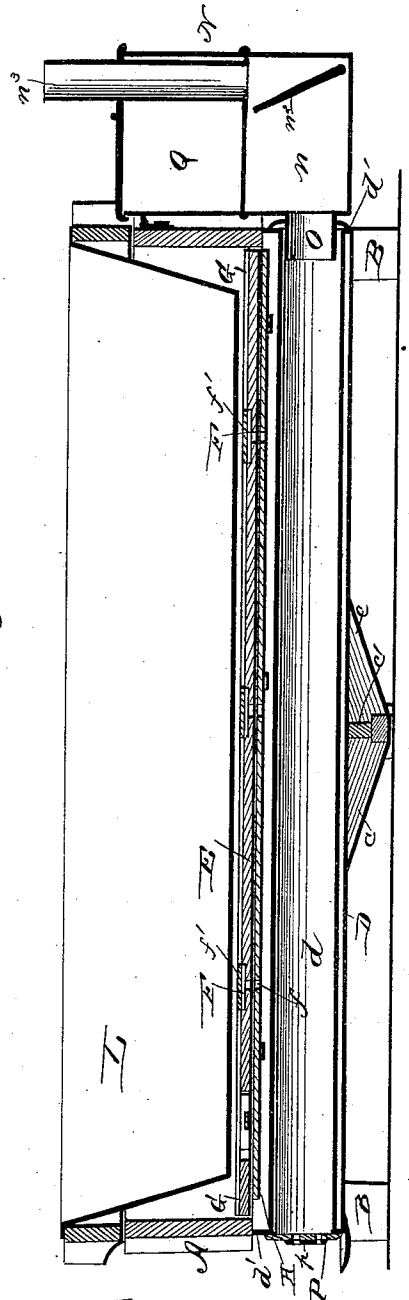


Fig. 3.

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(Model.) 3 Sheets—Sheet 3.

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Fig. 4.

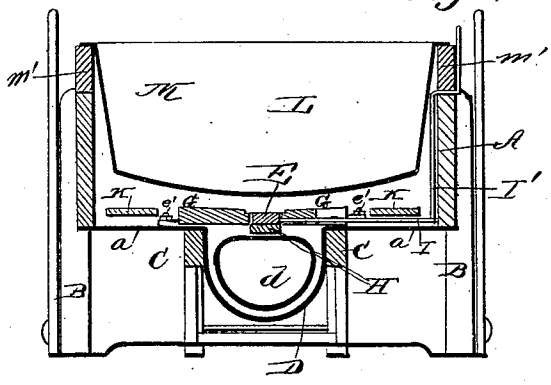


Fig. 5.

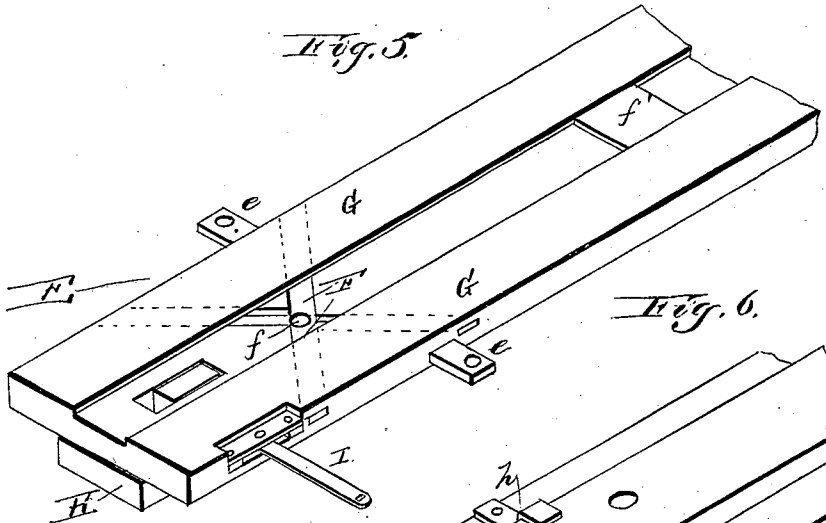
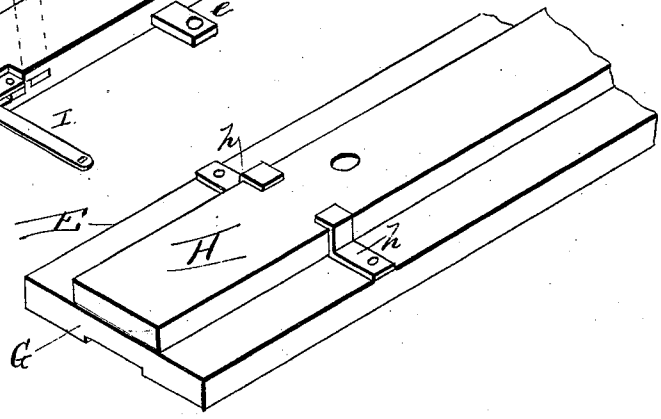


Fig. 6.



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UNITED STATES PATENT OFFICE.

GOTTLIEB H. SIMON, OF KIEL, WISCONSIN.

CHEESE-VAT.

SPECIFICATION forming part of Letters Patent No. 253,118, dated January 31, 1882.

Application filed October 14, 1881. (Model.)

To all whom it may concern:

Be it known that I, GOTTLIEB H. SIMON, of Kiel, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Cheese-Vats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The object of this improvement in cheese-vats is to provide for the free and equal circulation of heated water within an outer and around an inner vat; also, to provide certain improvements in the construction of the apparatus, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a perspective view. Fig. 2 is a side elevation. Fig. 3 is a central longitudinal section. Fig. 4 is a cross-section near the front end. Fig. 5 is a perspective view of the cover of the depression in outer vat, and Fig. 6 is a bottom perspective view of the same.

A indicates the outer vat, which has a sheet-metal bottom, *a*, and which is supported upon suitable legs, B B. Timbers C C are secured against the under side of this bottom of the outer vat by the end straps, *c''*, and the cross-boards *c'*, that are bolted to the center legs and braced by the brace-bar *c*. The sheet-metal bottom *a* of the outer vat has a central longitudinal depression, D, through which passes a flue, *d*, secured at its ends to the heads *d'* of this depression. The wooden cover E, which is arranged over this depression D in the outer vat-bottom, is provided with a series of metal lugs or plates, *e*, that are slotted to receive pins *e'*, projecting up from the metal bottom *a* alongside of its longitudinal channel or receptacle formed by the depression therein. Nuts are fitted upon the said bolts, and the slots admit of the expansion or contraction of the wooden cover. This cover E is formed with pairs of crossing-channels F in its upper side, and holes *f* pass from the points where the channels intersect down through the cover, so as to allow the water heated in the depression under the cover to rise up through the holes and cross-channels, and thereby circulate in the vat. The central portions of these channels are covered by metal plates *f'*, while their outer remaining portions are covered by wooden strips G G, thus leaving the outer termini of the channels at the side edges of the cover. A perforated slide-bar or cut-off, H, is held on the under side of the cover by spring-fingers *h h*, by means of which the slide-bar can expand or contract without injury to the devices or inconvenience to the operator. This cut-off is operated by means of the pivoted levers I I', one of which is provided with a handle above the vat. A pair of strips, K, are also arranged alongside of the cover and at a short distance above the metal bottom. These strips, together with the cover, constitute a false bottom for the inner vat. The inner sheet-metal vat, M, for the cheese is provided with end strips, *m*, and also with the side bars, *m'*.

N indicates the combined heater and boiler, which is arranged at one end of the outer vat. It is constructed with a heater, *n*, which will be provided with a suitable door, *n'*, and with a damper, n^2, for opening or closing the vertical flue n^3.

The flue *d* is provided with a front door, P, having a register or damper, *p*, to regulate the draft, and is connected with the heater and boiler N by a short flue, O, so that when a fire is built in the flue *d* the products of combustion will pass through the heater *n* and the flue n^3.

Above the heater *n* is a boiler, Q, provided with a hinged cover, and also with a cock, *q*, for drawing off the water.

At one end of the outer vat is a chute or inlet-spout, *q'*, into which water can be poured in order to supply the vat.

At the lower end of each corner leg of the outer vat is a pivoted lever, R, having an angular slot, *r*, through which the pivot *r'* passes. When these levers are operated so as to bring the pivots in those portions of the slots that are at right angles to the length of the lever, the vat can be raised by turning the levers so that their short ends will bear upon the floor or ground. When, however, the levers are not to be used, they will be turned so that the pivots will be received into those portions of the slots in line with the length of the lever, whereby the levers can be raised and turned back

without bringing their short arms into contact with the floor or ground. The water filled into the outer vat will also fill the space in its depression around the flue *d*, and by turning the dampers all of the products of combustion or hot air from the front of the flue *d* will be directed through said flue, so as to heat the water, which will rise through the cover that is located at the bottom of the outer vat, and thus heat the inner vat, containing milk for making the cheese. When desired, this upward circulation of water from the space around the flue can be checked by operating the sliding cut-off.

The boiler that is combined with the fire-box can be used for heating water when it is not desired to heat the same in the outer vat or in its depressed portion, which is in effect a reservoir for hot water when the flue running through it is used. When this boiler is used, as above stated, the fire is built in the heater *n* instead of the flue *d*.

What I claim is—

1. The pivoted levers arranged at the corner legs of the vat and having angular slots through which their pivots pass, substantially as and for the purpose described.

2. The combination, with the outer vat, A, having depression D, of the flue *d*, the wooden cover E, held by bolts passing through slotted lugs *e*, the channels F, perforations *f*, metal plates *f'*, wooden strips G, and the perforated wooden cut-off H, held by spring-fingers and operated by levers, said members being constructed and adapted for use substantially as described.

3. The combination of the outer vat, having a central longitudinal depression, a heating-flue extending through the same, the heater *n* at the end of said flue, the boiler Q, the outlet-flue n^3 through the boiler, and the regulating valve or damper n^2, substantially as described.

4. The combination of the outer vat, having a central longitudinal depression, the flue extending through the same, the false bottom, the perforations *f*, cross-channels F, the cut-off H, its yielding guides *h*, and the inner vat, substantially as described.

5. The combination of the outer vat, the flue passing centrally through its depressed bottom, the cover E, channeled and perforated at F *f*, the cut-off H, and deflector-plates *f'*, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of witnesses.

GOTTLIEB H. SIMON.

Witnesses:
FRED MOHR,
H. J. SENGLAUB.