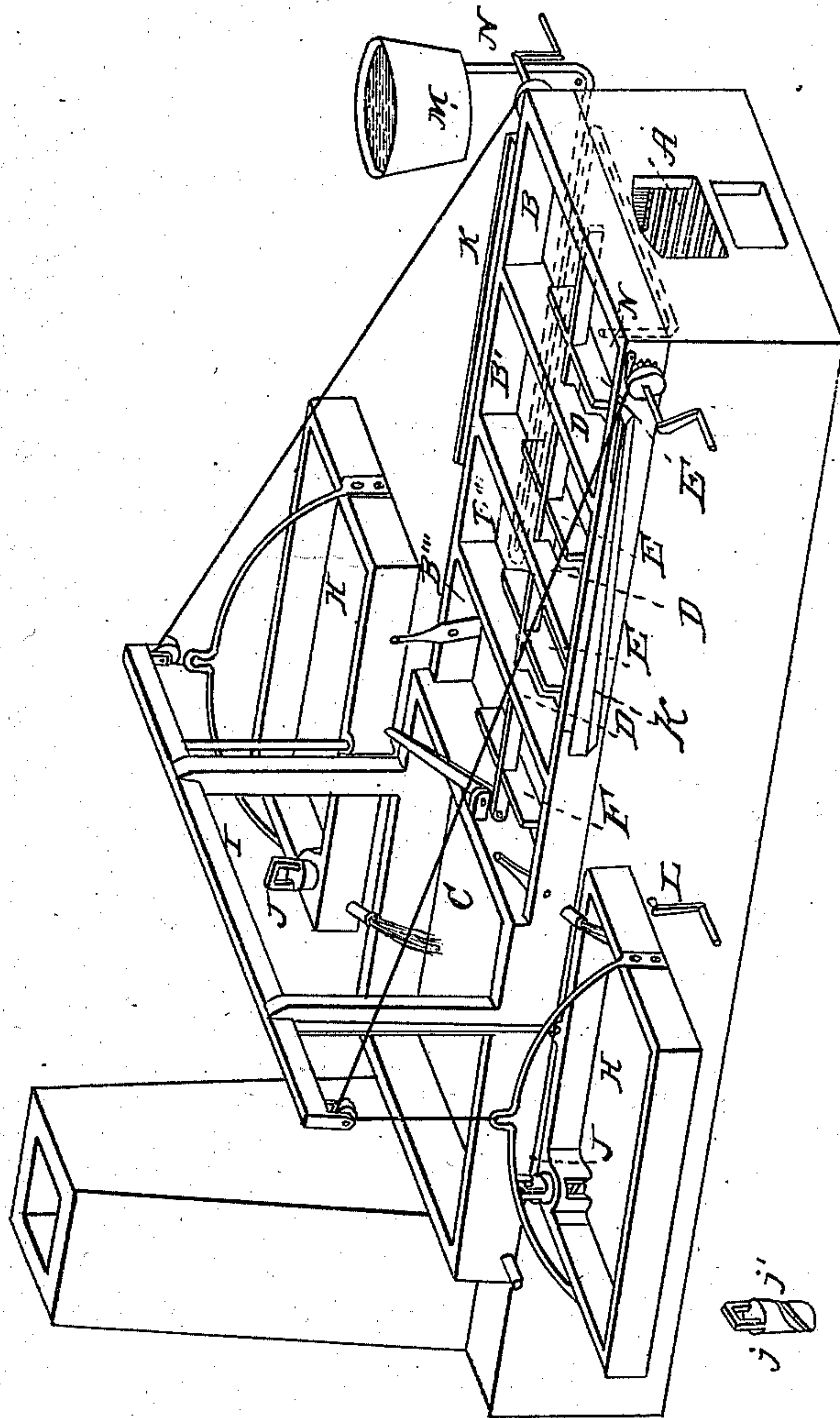


WHITCOMB & PRALL.

Evaporating Pan.

No. 35,481.

Patented June 3, 1862.



Witnesses

Jos. T. Muleha
 Wm. Eaton

Inventor

LJ Whitcomb & W E Pull
for Kings & Hras attys

UNITED STATES PATENT OFFICE.

LEWIS J. WHITCOMB AND WM. E. PRALL, OF MAINEVILLE, OHIO.

IMPROVEMENT IN APPARATUS FOR EVAPORATING SACCHARINE JUICES.

Specification forming part of Letters Patent No. 35,481, dated June 3, 1862.

As all whom it may concern:

Be it known that we, LEWIS J. WHITCOMB and WILLIAM E. PRALL, both of Maineville, Warren county, Ohio, have invented a new and useful Improvement in Saccharine Evaporators; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification.

This is an improvement in the class of apparatus employed to inspissate the sap of the sorghum and other saccharine plants; and the invention has reference to devices for the rapid boiling of the crude sap and for the proper circulation of the liquor and separation of feculencies.

A furnace, A, is surmounted by a series of pans, B, B', B'', B''', and C, whose bottoms are all on a level, the primary or evaporating pans B B', &c., being broad and shallow, and situated over the hottest portion of the fire for the rapid evaporation of the crude sap, and the final boiling-pan C being farthest from the fire and having high sides, so as to contain a large body of liquor to prevent scorching. A free communication can be opened simultaneously between the lower portions of the series, of first boiling-pans through apertures D at mid-length of their dividing-walls, by means of a series of valves, E, attached to a common stem, F, operated by a lever, G, or other suitable appliance. The valves E are made somewhat longer than the apertures D, so as, in addition to their functions as valves, to act as deflectors to cause the passing liquor to circulate over the entire pan-floor and prevent the lodgment thereupon of sediment, which is carried forward by the meandering stream thus created, the scum or lighter impurities being at the same time detained by the partitions or walls between the pans and by the valves E.

H H' are two settling-pans or defecators, suspended from derricks I—one on each side of the furnace. While the contents of one of these pans is settling the other pan may be receiving crude liquor from the evaporators, or may be discharging its settled and clear

liquor into the final boiler C. Each defecator has a faucet, J, having around its plug, j, a spiral channel, j', so that by turning the plug the discharging-orifice may be made to tap a lower and lower stratum of the liquor, so as gradually to decant off the entire portion free from sediment, which being effected, the pan is cleansed of sediment to fit it for another charge.

K are discharging-troughs for scum.

L is a damper to modulate the heat to the boiler C.

M is a reservoir, which receives the crude sap from the mill, and discharges it through a pipe, N, (which traverses the upper part of the furnace,) into the first boiling-pan B, so as to preheat the sap and cause it to boil the moment it enters the pan, thus saving heat and time in the operation.

We claim as new and of our invention—

1. The arrangement of a range of boiling-pans upon a common level, communicating through apertures adapted to be simultaneously opened or closed by the connected series of deflecting-valves E, constructed and operating substantially as and for the purposes set forth.

2. The arrangement of side defecators or settling-pans H H', adapted to be elevated and depressed, and operated in the manner set forth.

3. The decanting-faucet J j j', having a provision for gradual descent of the discharging aperture or ventage, as and for the objects stated.

4. The arrangement of reservoir M, which receives crude sap from the mill and discharges the same into the first boiling-pan by a pipe, N, which traverses the furnace, for preheating of the crude sap, as set forth.

In testimony of which invention we hereunto set our hands.

L. J. WHITCOMB.
W. E. PRALL.

Witnesses:

GEO. H. KNIGHT,
HENRY C. NICHOLSON.