

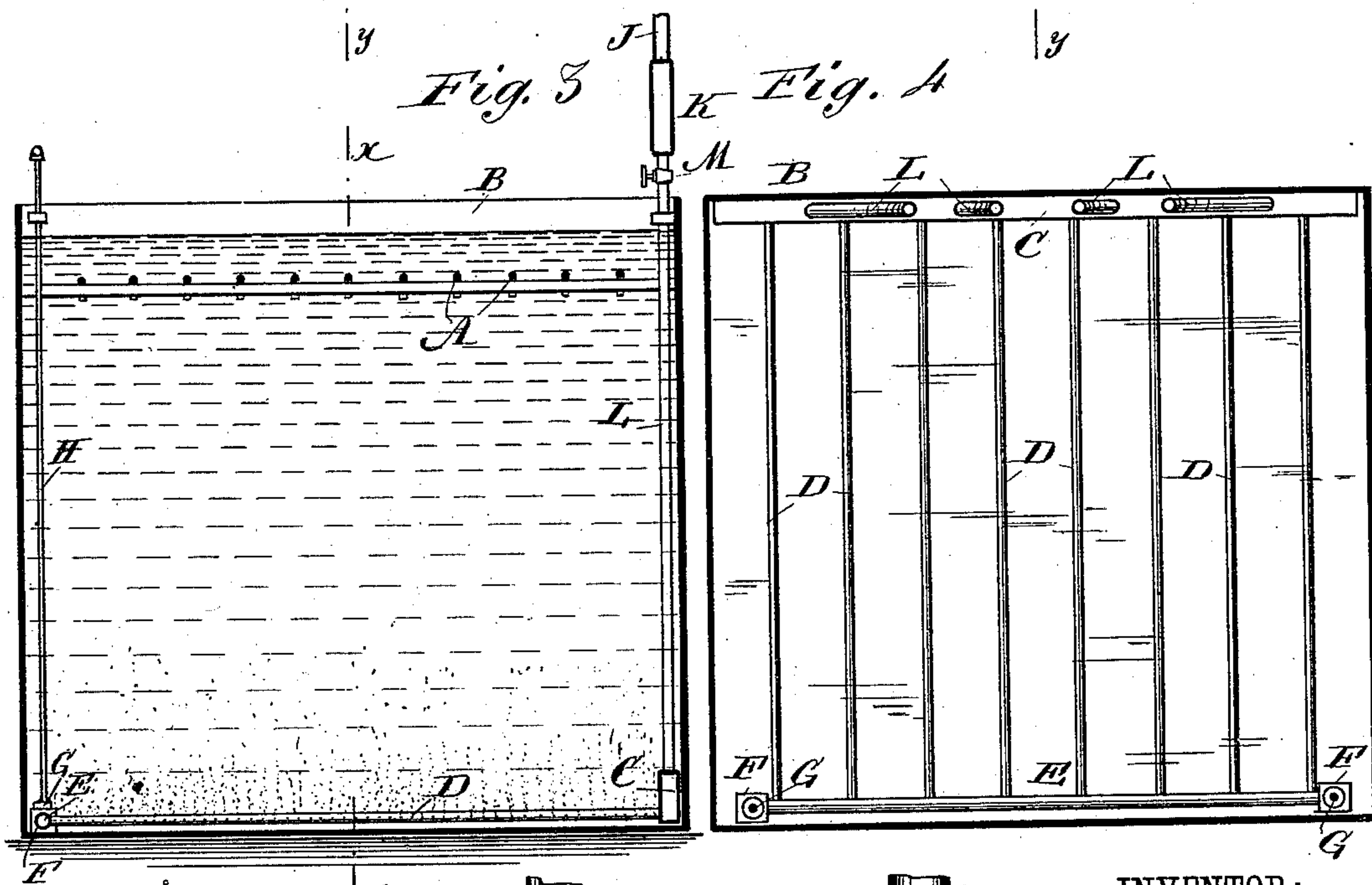
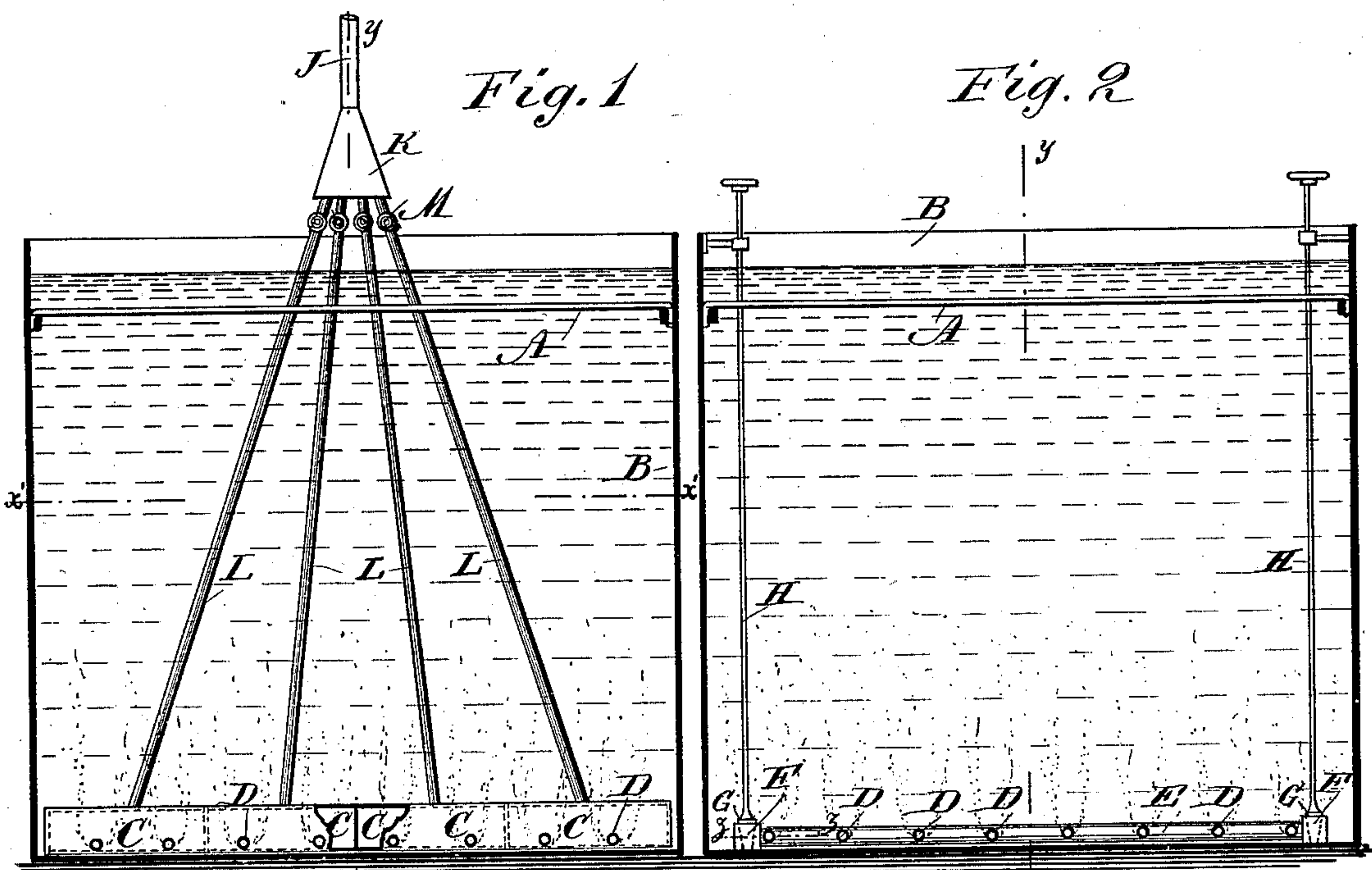
(No Model.)

T. A. MAYES.

APPARATUS FOR AGITATING THE LIQUOR IN TAN VATS.

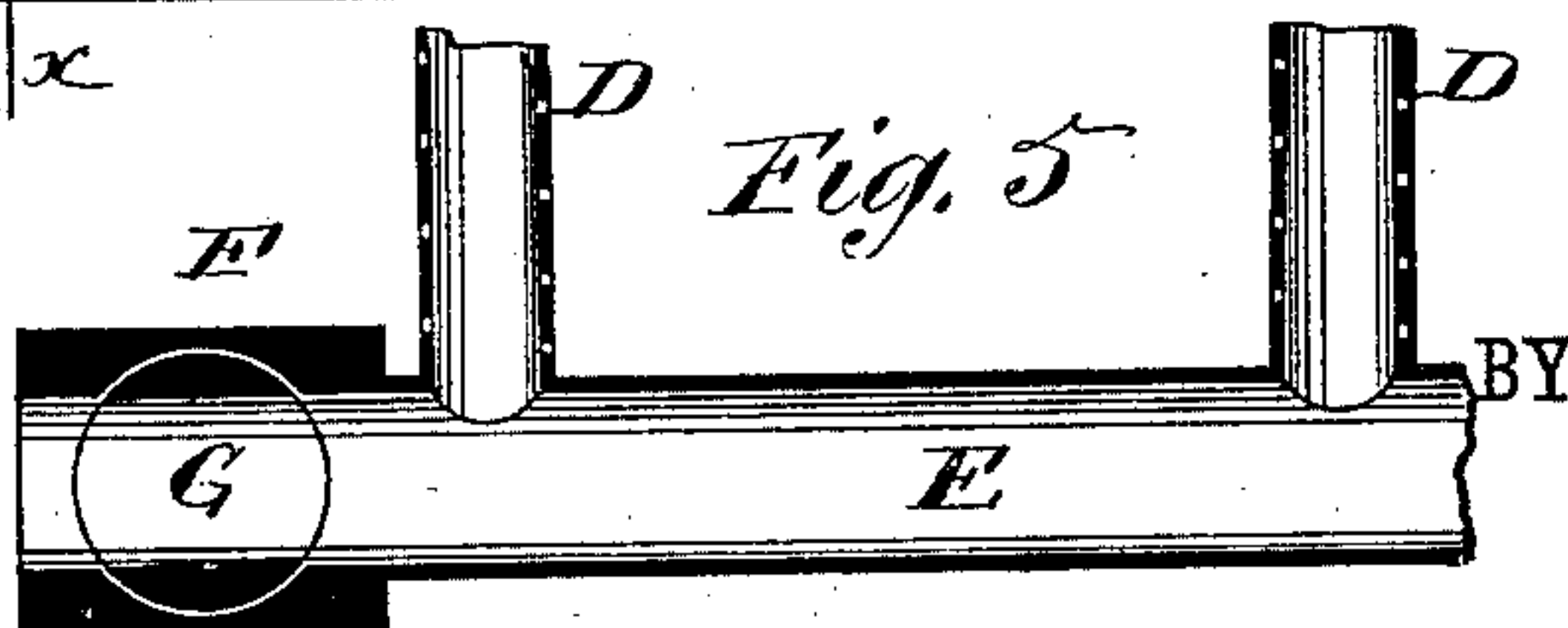
No. 296,986.

Patented Apr. 15, 1884.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

THOMAS A. MAYES, OF PHILIPSBURG, PENNSYLVANIA.

## APPARATUS FOR AGITATING THE LIQUOR IN TAN-VATS.

SPECIFICATION forming part of Letters Patent No. 296,986, dated April 15, 1884.

Application filed September 14, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. MAYES, of Philipsburg, Centre county, Pennsylvania, have invented a new and Improved Apparatus for Agitating the Liquid in Tan-Vats, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved apparatus for agitating the liquid in tan-vats, whereby fresh lime can be mixed with the said liquid without requiring the skins to be removed, and the skins can be limed much more rapidly than in the ordinary vat, and can remain in one and the same vat until they are perfectly limed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-sectional elevation of a liming-vat provided with my improved apparatus, on the line  $xx$ , Fig. 3. Fig. 2 is a cross-sectional elevation on the same line, looking in the opposite direction. Fig. 3 is a longitudinal sectional elevation of the same on the lines  $yy$ , Figs. 1 and 2. Fig. 4 is a sectional plan view of the same on line  $x'x'$ , Fig. 1. Fig. 5 is an enlarged detail longitudinal sectional plan view on the line  $zz$ , Fig. 2.

The skins to be limed are hung on a rack, A, in a tan-vat, B, of the usual construction. On the bottom of the vat a series of boxes or compartments, C, which may be square, circular, or oblong in cross-section, are placed along one of the sides, and the said boxes are connected by pipes D with a pipe, E, parallel with the boxes C, and at right angles to the pipes D, which pipe E is arranged along the side of the vat opposite the one along which the boxes C are arranged. The pipes D are provided in each side with a row of perforations, the perforations all being about at the same level. At the ends of the pipe E valve-boxes F are arranged, which contain valves G, secured to rods H, extending to the top of the vat, and suitably guided and held on the sides of the vat. A pipe, J, connected with an air-pump or other air-compressor, is connected with a junction-box, K, from which a separate pipe, L, extends to each box or compartment C. Each pipe L is provided with a cock, M. If the lime solution or liquid in the vat becomes too weak, fresh lime is added and the liquid agitated by admitting compressed

air from pipes L into the pipes D, which compressed air passes through the perforations in the sides of the pipes D, and rises in and bubbles up through the liquid, which air agitates the liquid sufficiently to dissolve the freshly-added lime. If lime, &c., pass through the perforations into the pipes D, the valves G are opened, so that the air can rush through the pipe E and out through the ends of the same, thereby blowing all lime and sediment that have collected in the pipes out of the same. Ordinarily the ends of the pipe E are closed by the valves G. The liquid in the vat can thus be strengthened at any time without requiring the skins to be removed from the vat, and the skins can remain in the vat until they are limed completely. If the skins are changed from one vat to another, which is necessary if they are limed in the vats of the usual construction, it takes ninety-six hours to lime the skins, whereas in a vat provided with my improved apparatus they can be limed in from thirty to forty-eight hours.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a vat, of boxes or compartments on the bottom of the same, perforated tubes projecting from the compartments, and pipes for conducting compressed air into the compartments, substantially as herein shown and described.

2. The combination, with a vat, of perforated pipes on the bottom of the same, which pipes connect compartments or boxes, and a transverse pipe, which is provided at the ends with valves, substantially as herein shown and described.

3. The combination, with a vat, of the boxes C, the perforated pipes D, the pipe E, and the pipes L, for conducting air into the boxes, substantially as herein shown and described.

4. The combination, with a vat, of the boxes C, the perforated pipes D, the pipe E, the valve-casings F in the ends of the same, the valves G in the casings F, the rods H, and the pipes L, for conducting air into the boxes C, substantially as herein shown and described.

5. The combination, with a vat, of the pipes L, the box K, the pipe J, the cocks M, the boxes C, the perforated pipes D, and the pipe E, substantially as herein shown and described.

Witnesses: THOMAS A. MAYES.

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