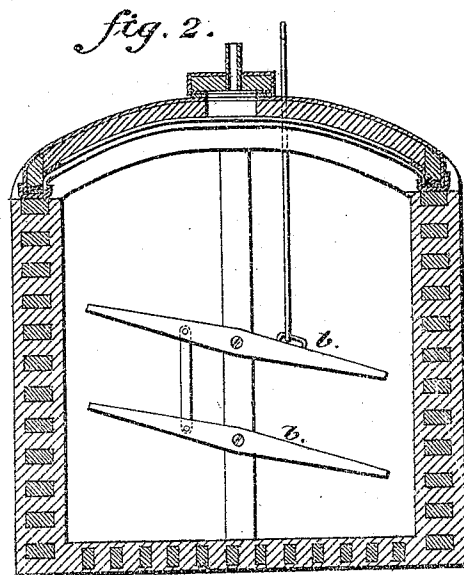
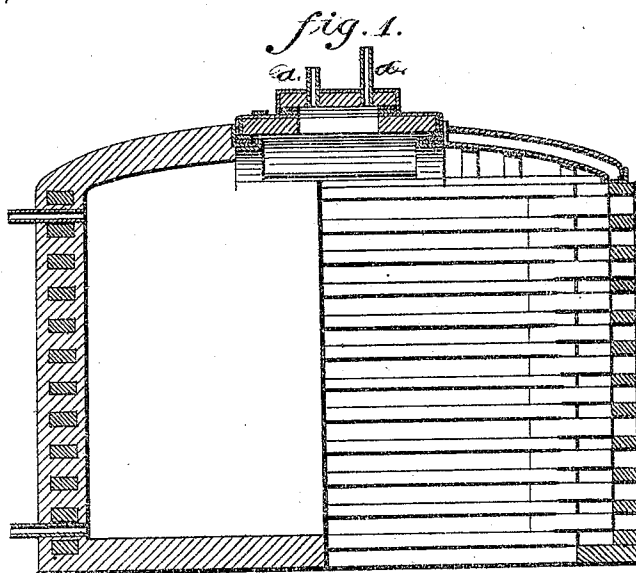


C. H. MANNING.
Tan-Vats.

No. 138,906.

Patented May 13, 1873.



Attest;
M. H. Chandler
C. D. French

Inventor;
Chas. H. Manning

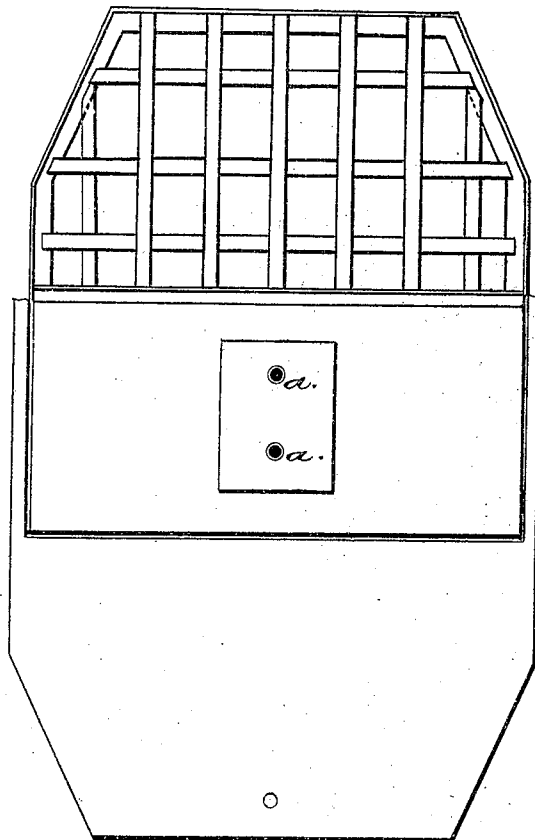
3 Sheets--Sheet 2.

C. H. MANNING.
Tan-Vats.

No. 138,906.

Patented May 13, 1873.

Fig. 3



Attest;
M. H. Spangler
C. D. Ireland

Inventor;
Chas H Manning

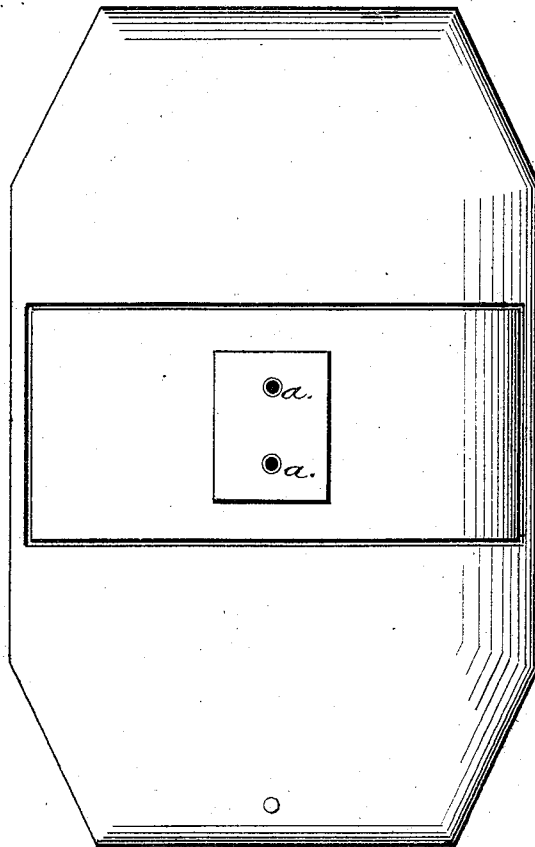
3 Sheets--Sheet 3.

C. H. MANNING.
Tan-Vats.

No. 138,906.

Patented May 13, 1873.

Fig. 4.



Attest;
M. H. Hamner
W. D. Grehan

Inventor.
Chas. H. Manning

UNITED STATES PATENT OFFICE.

CHARLES H. MANNING, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN TAN-VATS.

Specification forming part of Letters Patent No. **138,906**, dated May 13, 1873; application filed March 17, 1873.

To all whom it may concern:

Be it known that I, CHAS. H. MANNING, of Washington, in the county of Washington and District of Columbia, have invented an improved Tan-Vat; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making a part of this specification—

Figure 1 being a longitudinal section of the vat; Fig. 2, transverse section; Fig. 3, plan or top view of same, half plastered; Fig. 4, plan or top view of same wholly plastered.

Like letters designate corresponding parts in all of the figures.

My improved tan-vat, though applicable for other purposes and methods of tanning, is especially intended to be used with the vacuum and pressure processes of tanning.

The main feature of the invention consists in the construction of the vat of cement, except the frame or skeleton on which the cement is to be laid, and entirely covered, so that nothing but a solid stone vat or cistern shall appear to view. Thus, take strips of rough wood, (cedar is preferable,) say two and a half inches wide, and one inch thick or so, the edges of which have been grooved or plowed, and also grooved on both sides lengthwise, say a quarter of an inch deep and wide, to hold the cement. I construct the bottom first as to size and shape, saw off pieces—say four inches long—and put them between two long strips, one at each end and two midways, nail fast, and so on. This will make the bottom edgewise and open to receive the cement. The sides will lie flatwise, and alternate at the corners, first an end piece above, and then a side piece above that, placing short pieces in the middle, leaving the open spaces as before, and so on all round, nailing fast, until high enough to receive the top piece, which makes it the right shape. The top piece should be about four inches wide and one and a half inches thick, (if iron, it can be smaller,) grooved about three-fourths of an inch deep on top, and fitted to receive the cover rim, (grooved on the under side like

the other strips, but near the edge,) rubber packing or gasket, and soap packing, and cement. Screw on and fasten with iron rods through the whole, and especially if the whole frame is made of iron. Then cement both sides, in and out, and bottom, as you would plaster a house. The cover is made with an iron frame, and may be covered with iron, or wood and metal and water-proof paper, if preferred, or arched and cemented like the other parts, leaving about a third of the space in the middle of the vat for the cover, which is made to fit in the grooves and fasten down on the rubber gaskets and held for the soap packing, to render it air-tight, using iron bars from the side, or screw-bolts and flanges, if preferred. Tubes or pipes *a a* for the exhaust and force pump, and also safety-valve and pressure-gauge, are screwed therein; also pipe or outlet formed in the vat while building to draw off the liquor.

The eight-sided figure is considered best, as it gives great strength and shortens the sides. Put a thickness of water-proof paper between each wooden strip at the bearing to allow them to swell. The top of the vat should always be arched, and may be lined with wood or metal, if desired. Agitators *b b*, for stirring the liquor within, are mounted inside to be operated by a connecting-rod working through the top.

This construction not only affords extraordinary strength and durability, but especially renders the vat impervious to air and water, so that the production of vacuum or compression therein is always sure and perfect.

What I claim as my invention, and desire to secure by Letters Patent, is—

A vat or cistern, with a frame-work of wood or iron and wood, as shown and described, with its outer and inner sides covered with cement, substantially as and for the purpose herein specified.

CHAS. H. MANNING.

Witnesses:

M. T. E. CHANDLER,
C. D. IRELAN.