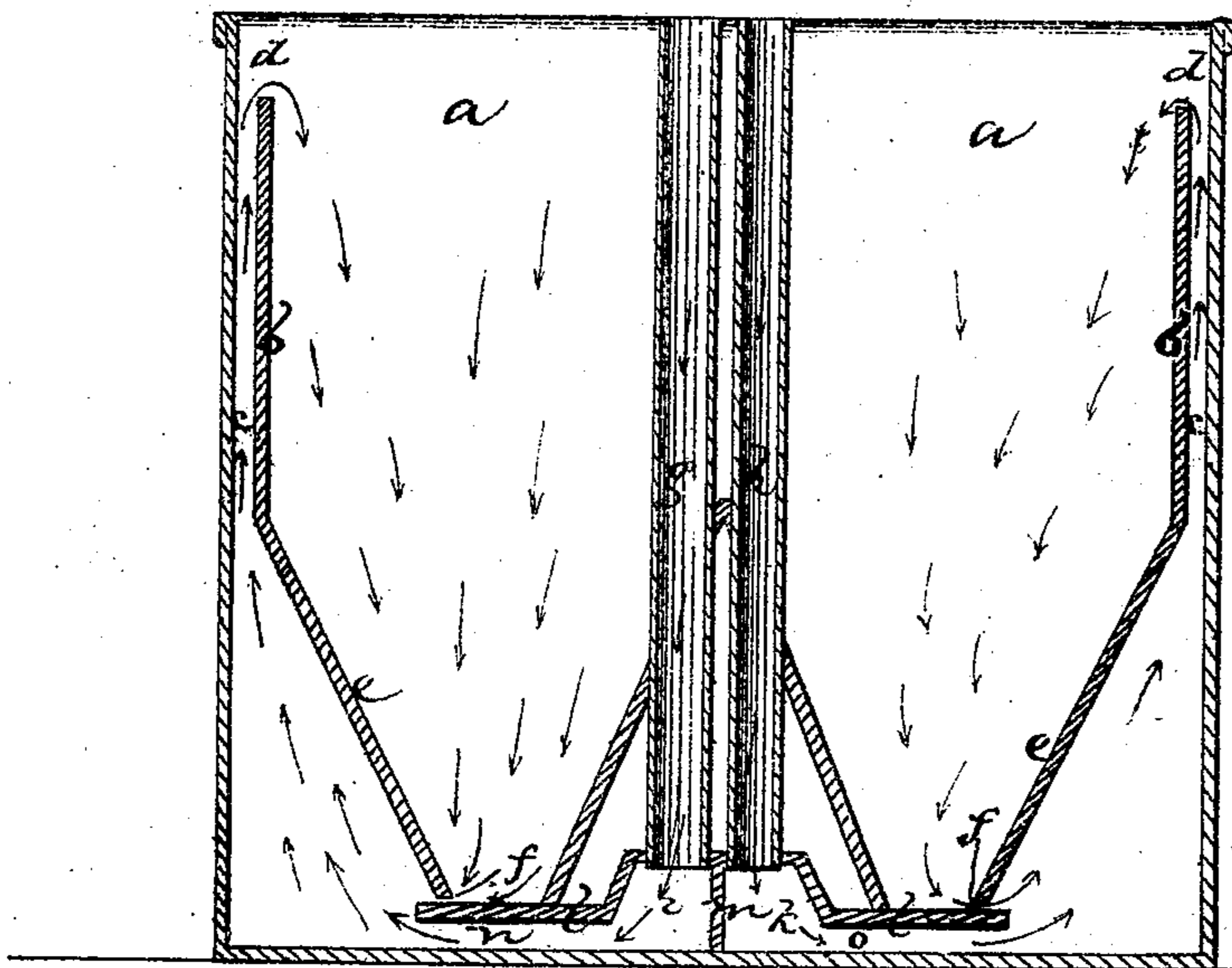
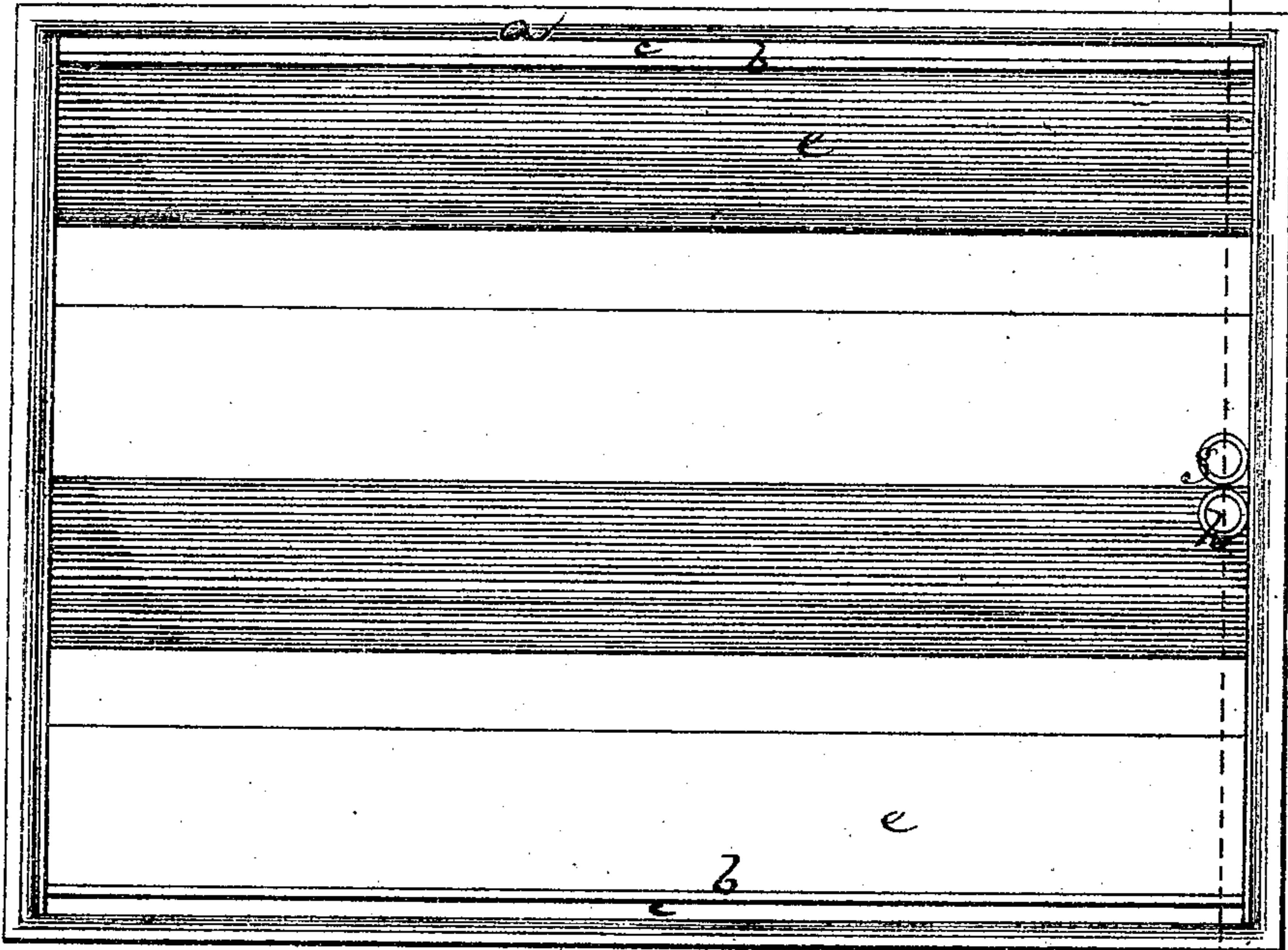


J. W. COBURN & E. F. WINSLOW.

Improvement in Tanning Apparatus.

No. 119,822.

Patented Oct. 10, 1871.



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E. F. Winslow.  
By their Atty.  
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Witnesses. { Mr. W. Frothingham.  
                  { L. B. Kiddet.

# UNITED STATES PATENT OFFICE.

JOSEPH W. COBURN, OF EAST WALPOLE, AND ELISHA F. WINSLOW, OF SOUTH DEDHAM, MASSACHUSETTS.

## IMPROVEMENT IN TANNING APPARATUS.

Specification forming part of Letters Patent No. 119,822, dated October 10, 1871.

*To all whom it may concern:*

Be it known that we, JOSEPH W. COBURN, of East Walpole, and ELISHA F. WINSLOW, of South Dedham, all in the county of Norfolk and State of Massachusetts, have invented an Improvement in Tanning; and we do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of the invention sufficient to enable those skilled in the art to practice it.

Our invention relates to an improved method of agitating the liquid in tan-vats and creating a circulation of the liquid and tannin, and of oxygenating or sweetening and keeping sweet the liquid of tan-vats or leaches. In our invention we combine, with the vat, air-tubes or pipes passing into or through the vat and debouching into the lower part thereof, the vat being made with thin spaces or chambers at the sides in such manner that the air pumped through the air-tubes into the bottom of the vat rushes up the sides through the chambers, the top of the partition forming the inner wall of each chamber being below the top of the vat, so that the uprushing air creates a current in the liquid, causing the bottom part of the liquid with the tannin residuum to flow up through the chambers, inward over the partitions, and back into the body of the vat. It is in this construction of a tanning-vat that our invention consists.

The drawing represents, in plan and sectional elevation, a vat embodying our construction, the section being taken on the line *x x*.

*a* denotes an ordinary vat, in which the hides to be tanned are suspended upon suitable frames or racks. At each side of the vat is a vertical partition, *b*, forming between it and the adjacent

wall a narrow chamber or vertical space, *c*, the partition coming short of the top of the chamber, as seen at *d*. The bottom of each partition extends inwardly, as seen at *e*, and under it is a passage or space, *f*. At or near the end of the vat are two tubes, *g h*, opening into narrow chambers *i k* under a false bottom, *l*, a central partition, *m*, dividing the two chambers. Under the false bottom, and leading from the two chambers *i k* are two shallow chambers, *n o*, leading into the bottoms of the side chambers *c* back of the inclines *e*, the vat-chamber communicating with the side chamber *c* at bottom, through the openings *f*.

Air being pumped into the two tubes *g h*, fills the narrow chambers *i k*, and, in escaping therefrom, rushes through the spaces or chambers *n o* into and up through the vertical chambers *c* into the atmosphere, and in thus rushing through the tanning liquid it creates a circulation of the tanning liquid from the bottom of the vat through the openings *h*, up through the chambers *c*, inwardly over the tops of the partitions *l*, back into the vat, thus creating a circulation of liquid throughout the vat, the current taking up the tanning residuum and thus keeping the tanning liquid uniform in strength and uniformly in action upon all parts of the skin suspended in it.

We claim—

In combination with a tanning-vat, the air-tubes, side chambers, and partitions and passages, combined and relatively arranged, substantially as described.

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Witnesses:

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