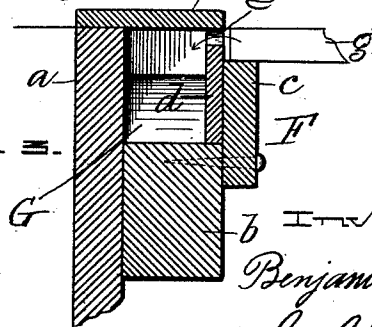
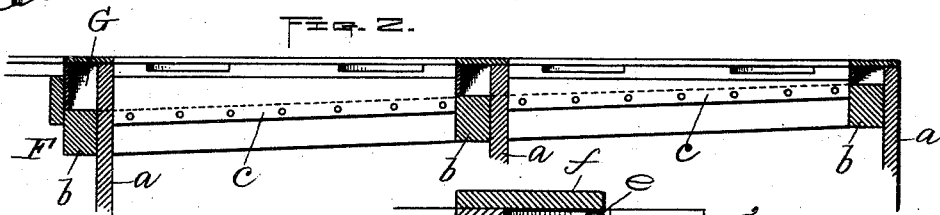
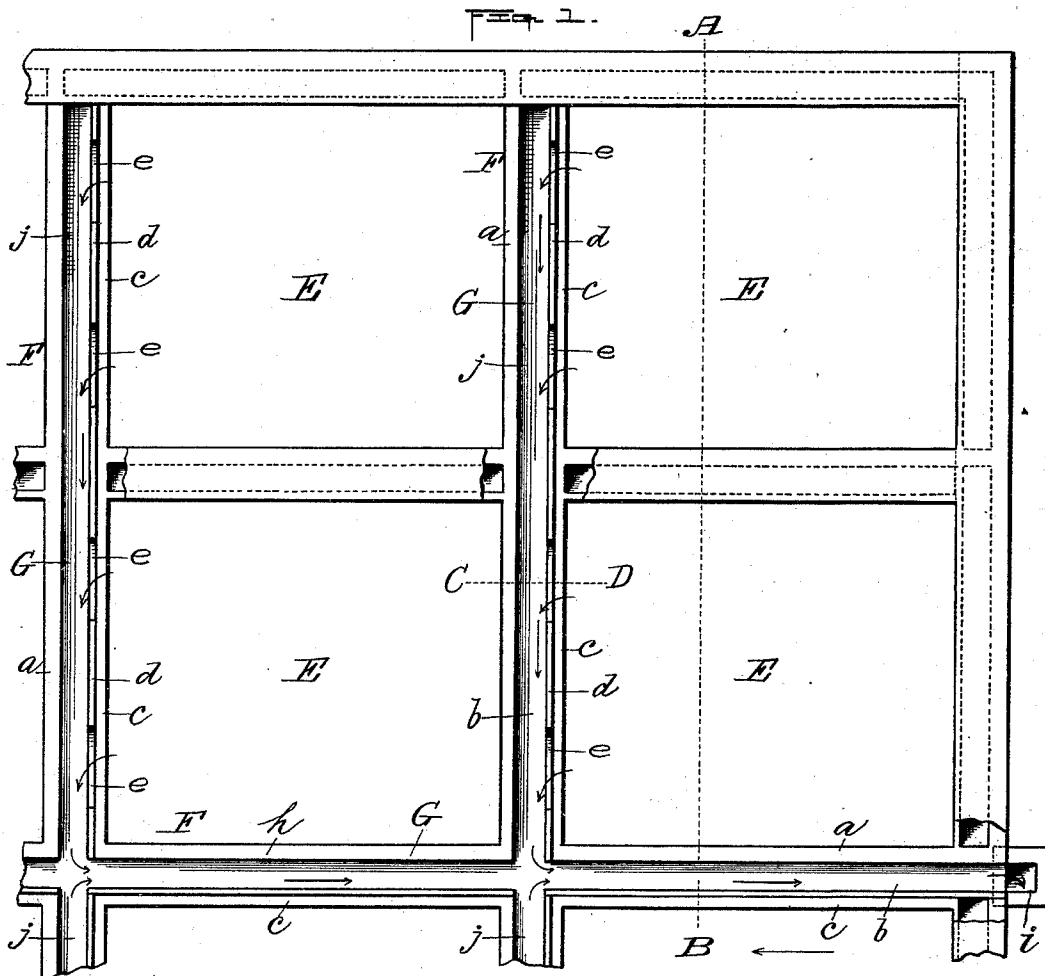


(No Model.)

B. P. BRADFORD.
LEATHER TANNING VAT.

No. 483,734.

Patented Oct. 4, 1892.



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UNITED STATES PATENT OFFICE.

BENJAMIN P. BRADFORD, OF WORCESTER, MASSACHUSETTS.

LEATHER-TANNING VAT.

SPECIFICATION forming part of Letters Patent No. 483,734, dated October 4, 1892.

Application filed April 13, 1892. Serial No. 428,937. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN P. BRADFORD, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Leather-Tanning Vats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a plan of a series of leather-tanning vats embodying my improvements; and Figs. 2 and 3 are vertical sections of portions thereof relating to said improvements, taken at lines A B and C D, respectively.

The object of my invention is to provide means whereby the overflow tanning-liquor may be automatically discharged from the vats, and thus dispense with the usual operation of bailing the same out by hand.

It consists in constructing a trough or channel in the framework of the vats communicating with each vat and graded down to the mouth of a pipe, which conducts said surplus liquor back into the supply-vats to be strengthened and reused, as will be hereinafter more fully set forth.

To enable those skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

Prior to my invention it has been customary to remove the surplus liquor from the vats by dipping it out in pails by hand and emptying it into other vats or into the conducting-pipe, which carries it back to the main supply-tank. This method, as is well known, is laborious and expensive, and is also attended with unsatisfactory results, which are entirely obviated by the use of said invention, which will now be described.

Referring to the drawings, the parts marked E represent the several vats of the series, F the framework thereof, and G the trough or channel previously alluded to, which is formed in said framework as follows: The vats are made up, as usual, of planking *a*, which forms the division-partitions between each vat and those adjoining and which is spiked to and held in place at the top by the horizontal timbers

b, framed or otherwise fastened together at the intersecting points. This frame is usually carried around the vats at their extreme upper ends flush or about flush with said upper end and in a horizontal line, the purpose thereof being simply to act as a supporting framework, as in other similar cases; but in the present instance said framework serves not only the above purpose, but also to form the bottom of the inclined trough previously alluded to and as a support to which may be fastened the parts which constitute one side of the trough, the plank partitions *a* forming the other side of said trough. The built-up side of the trough may be made in any well-known way. In this instance I have shown a plank *c*, secured to the outside of the frame *b*, which extends up in practice to within about two inches of the top of the plank partition, and inside of said plank *c* is secured a board *d*, extending up to the top of the partitions and having its upper edge cut away about one inch down from the top at one or more points to form outlets *e* for the tanning-liquor, as is shown in Figs. 2 and 3. The size and number of said openings is of course immaterial. The trough is preferably covered over with a removable board *f*, which also serves to walk upon in tending the vats.

The usual slats *g*, from which the hides are suspended, rest at the ends on the top of the plank *c*, as is shown in Fig. 3, bringing the tops of said slats upon a level with the tops of the plank partitions.

In practice the troughs are preferably arranged to come as shown in Fig. 1, with a central trough *h* connecting with the mouth of a conducting-pipe *i* and branches *j* extending out therefrom in either direction between the various vats, inclined or graded down to said central trough. As the latter is necessarily the lowest grade or deepest, it may be made level or graded to the conducting-pipe *i*, as preferred. By thus making the discharge-troughs a part of the framework by lowering the usual top frame and forming the troughs as described it is obvious that the surplus liquor required to be removed for any cause may automatically flow off at any time, and consequently requires no attention from the workmen attending the vats, thereby saving

much time over the customary method employed of dipping the liquor out in pails by hand. The danger of overflow is also entirely obviated, and by the construction adopted
5 practically no space is occupied for the troughs above what is necessary to the usual construction. Furthermore, the expense of providing the vats with said automatic discharge is but trifling over said usual construction.

10 Having now described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. In a leather-tanning vat, the combination
15 of the usual plank partitions with a horizontal frame secured thereto, dropped a little below the top thereof, and inclined as described, and vertical partitions secured to said frame at the opposite side from the plank partitions to

form an inclined trough between them and having lateral inlets from the vats to said
20 trough, substantially as set forth.

2. In a leather-tanning vat, the combination of the plank partitions *a* and the frame *b*,
dropped a short distance below the top of said partitions and inclined as described, with the
25 supporting-plank *c*, secured to said frame *b* at the opposite side from the planking *a*, the board *d*, secured just inside of said plank and notched out at its upper edge to form open-
ings *e*, and cover *f*, substantially as and for
30 the purpose set forth.

BENJAMIN P. BRADFORD.

Witnesses:

A. A. BARKER,
W. B. NOURSE.