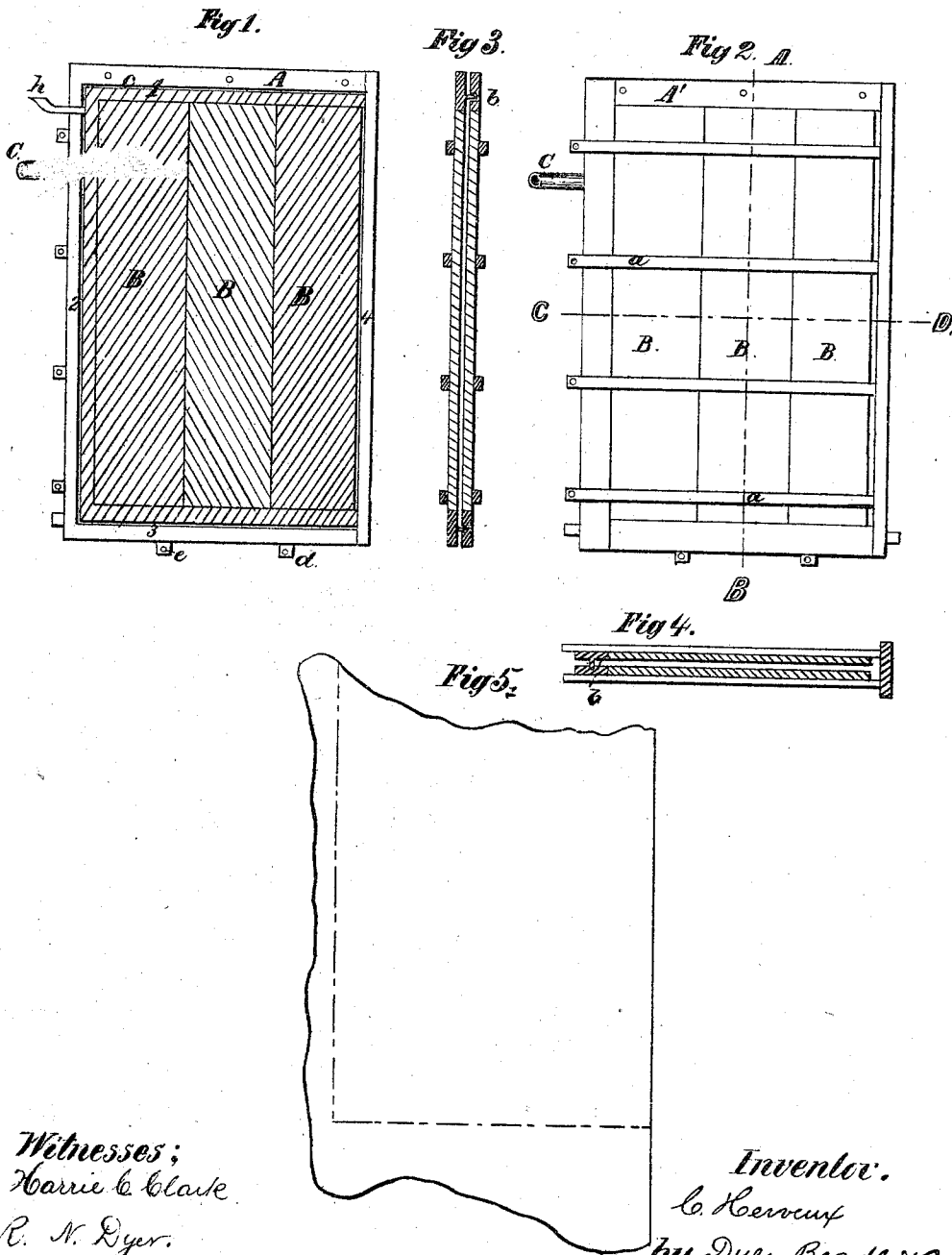


C. HERVEUX.
Tanning Apparatus.

No. 139,892.

Patented June 17, 1873.



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IMPROVEMENT IN TANNING APPARATUS.

Specification forming part of Letters Patent No. **139,892**, dated June 17, 1873; application filed January 16, 1873.

To all whom it may concern:

Be it known that I, CONSTANT HERVEUX, of Liverpool Road, Islington, in the county of Middlesex, England, have invented certain Improvements in Tanning and in Apparatus used therefor, of which the following is a specification:

This invention consists in an improved method of and apparatus for tanning hides and skins whereby the process is greatly accelerated without the use of any acid except that of bark commonly called tannic acid.

In carrying out this invention I form two rectangular frames of wood or other suitable material of the same size, so as to lie one upon the other. On the inner sides or faces of one of these frames, and near the outer edge thereof, a thin piece of metal is inserted in such a way that the edge thereof shall project above the surface of the said frame, and on the inner side of the other frame a groove is formed in such a manner as that the said piece of metal may fit into the groove when the two frames are placed over each other, as hereafter described. Movable laths are fitted across the said frames; in these laths are cut channels or perforations to facilitate the passage of the liquid in contact with their under sides. Between two frames so formed I place a hide previously prepared in the usual way and ready for tanning, doubled over in half. The two frames being brought together by screws at the corner of and other suitable parts of the frames, the pieces of metal in the three sides of one frame will force that part of the hide which is over them into the grooves in the other frame. The two frames, with the doubled hide betwixt them, having been thus screwed tightly together, any of the hide that protrudes beyond the said frames is cut off, and may be tanned in the usual way, or otherwise used. The double hide so held between the two frames forms a fluid-tight bag into which, by a pipe or pipes inserted between the two surfaces of the hide between the frames, the tan-liquor, which is simply oak-bark and water of different strengths, may be introduced, and will pass in between the folded parts of the hide under any required pressure or head. The hydrostatic pressure causing the liquor to filter slowly through the pores of

the hide, the spent tan-liquor will pass off in the outer surfaces of the folded hide into a vessel placed to receive it. The said laths keep the hide in proper form and cause it to be tanned equally all over and, being movable, their position may be altered during the process to prevent the hide being marked by the channels or perforations in the laths. When the hide is tanned I unscrew the frames and remove the hide, and after having cut off the edge which was nipped by the pieces of metal forcing it into the grooves, the hide thus tanned is dried and prepared for the market in the usual way.

Such being the nature of my said invention, I will now proceed to describe the apparatus employed, reference being had to the illustrative sheet of drawings accompanying this specification, and to the numeral figures and letters of reference marked thereon, respectively, as follows:

Figure 1 represents an inside view of my improved apparatus; Fig. 2 an outside view as it would appear when in use. Fig. 3 is a vertical section through the line A B, in Fig. 2; and Fig. 4, a horizontal section through the line C D in Fig. 2. Fig. 5 represents a hide, the dotted lines showing how it should be cut for tanning by my improved apparatus.

In each of the above-mentioned figures I employ similar letters of reference to denote corresponding parts.

A A' represent strong frames, made of wood or other suitable material, but I prefer oak. To these frames I adapt movable pieces or laths B, in which are cut small grooves or channels, denoted by the cross-lines at Fig. 1, to allow the tan-liquor employed to escape after filtering through the hide. These pieces B also serve to retain the hide in proper form and cause it to be tanned equally all over. C is a pipe or pipes for the tan-liquor to pass through from an elevated or pressure reservoir. *a* represents pieces for connecting the two frames A A' tightly together, which may be effected by means of bolts and nuts at *x*; the pieces *a* also serve to prevent the laths B from breaking by the pressure between the folded parts of the hide. In Figs. 3 and 4, *b* marks a flange or projecting piece of metal which takes into a corresponding groove formed on three sides

of the other frame A, as at *c*, Fig. 1, so that when the hide is stretched over and the aforesaid frames are screwed together, the hide will be firmly gripped and forced into the groove on the three sides marked 1 2 3, thereby excluding air and preventing the tan-liquor escaping otherwise than through the hide. The fourth side, marked 4, is kept tight by reason of the hide being doubled over. *d* are lugs for screwing the frames A A' tightly together by means of bolts and nuts at the holes *e*.

To tan a hide according to my said invention I proceed as follows: I take a hide which has been previously prepared for tanning by the well-known method, and, after having cut it in the direction denoted by dotted lines at Fig. 5, I double the said hide over in half; I then place it over the aforesaid frame A, and then place the other frame A', similarly constructed, over it, and screw the two frames tightly together, by means of bolts and nuts at *d*, *e* and *x*, Figs. 1 and 2; after which I admit the tan-liquor through the pipe C, passing through the flange or projecting piece of metal in between the folded or doubled parts of the hide from an elevated or pressure cistern, and then fill the space between such folded parts of the hide with the tan-liquor. The hydrostatic pressure causes the tan-liquor to percolate slowly through the pores of the hide, and the laths or movable pieces B cause the hide to be equally tanned all over. The pieces B should be moved slightly from time to time, by means of a screw or otherwise, in order that the grooves or channels or perforations in the said pieces may not always remain on the same part of the hide.

The tan liquor is supplied in different strengths during the process.

It will be found desirable during the process of tanning to turn the hides occasionally. When the hide is tanned the frame can then be unscrewed and the hide removed and finished in the usual way.

By the above method and apparatus a hide may be tanned in about three weeks with oak-bark and water only, instead of requiring from eight to twelve months, as is now the case in tanning hides with oak-bark and water. A pipe, *h*, is fixed above the pipe C for escape of air.

Having now described the nature of my said invention for improvements in tanning and in apparatus used therefor, and in what manner the same is to be performed, I wish it to be understood that I do not claim the several processes or parts of the apparatus hereinbefore described and referred to, except when the same are employed in and for the purposes of my said invention; and I hereby declare that—

I claim as my invention—

1. The apparatus, shown and described, adapted to clamp the sides of a doubled hide for the purpose of forming a bag, as set forth.

2. The combination of the frames A A', with the movable pieces B, substantially as and for the purpose set forth.

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