

I. C. England,

Tanning Apparatus,

Patented Sep. 17, 1867.

N^o 68,861.

Fig. 1.

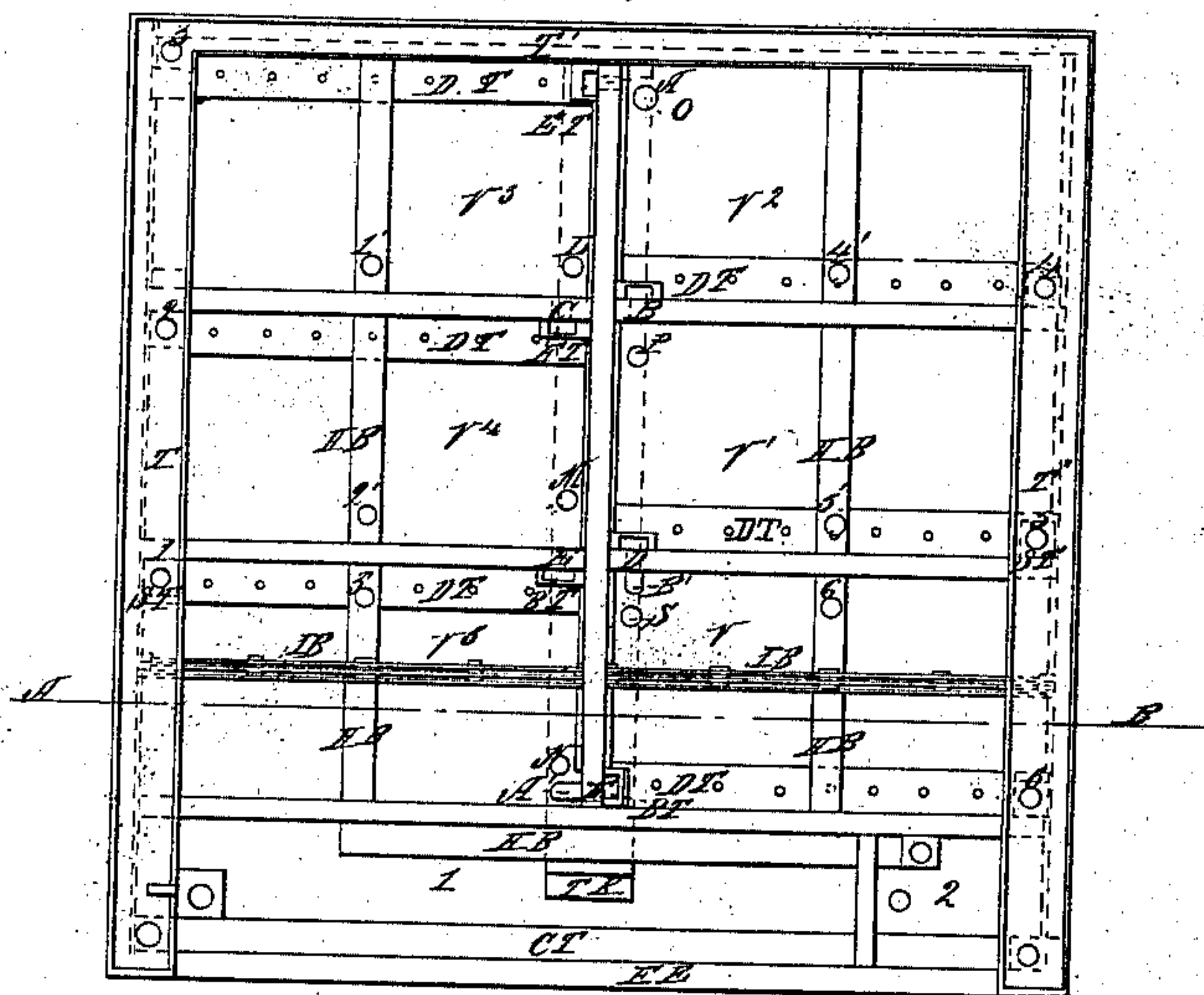


Fig. 2.

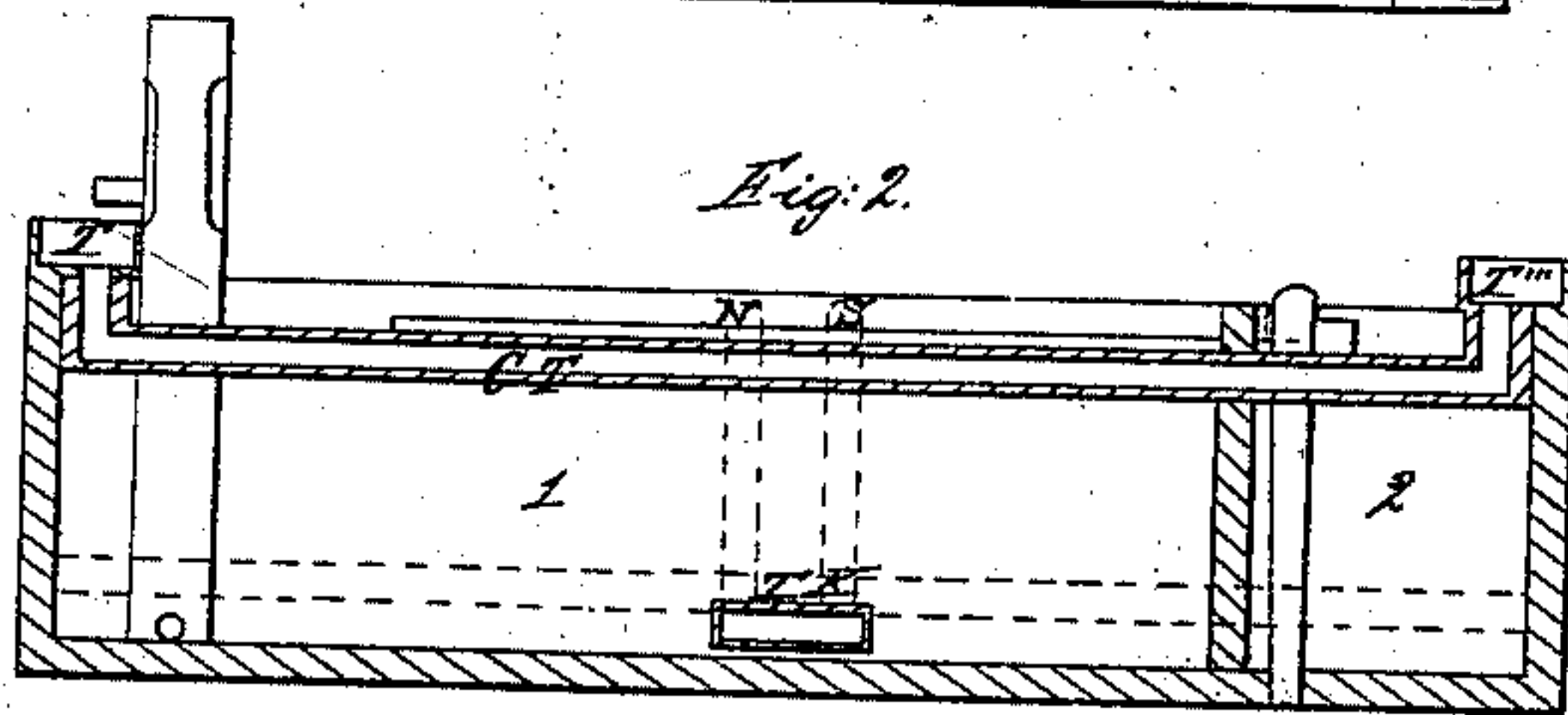


Fig. 3.

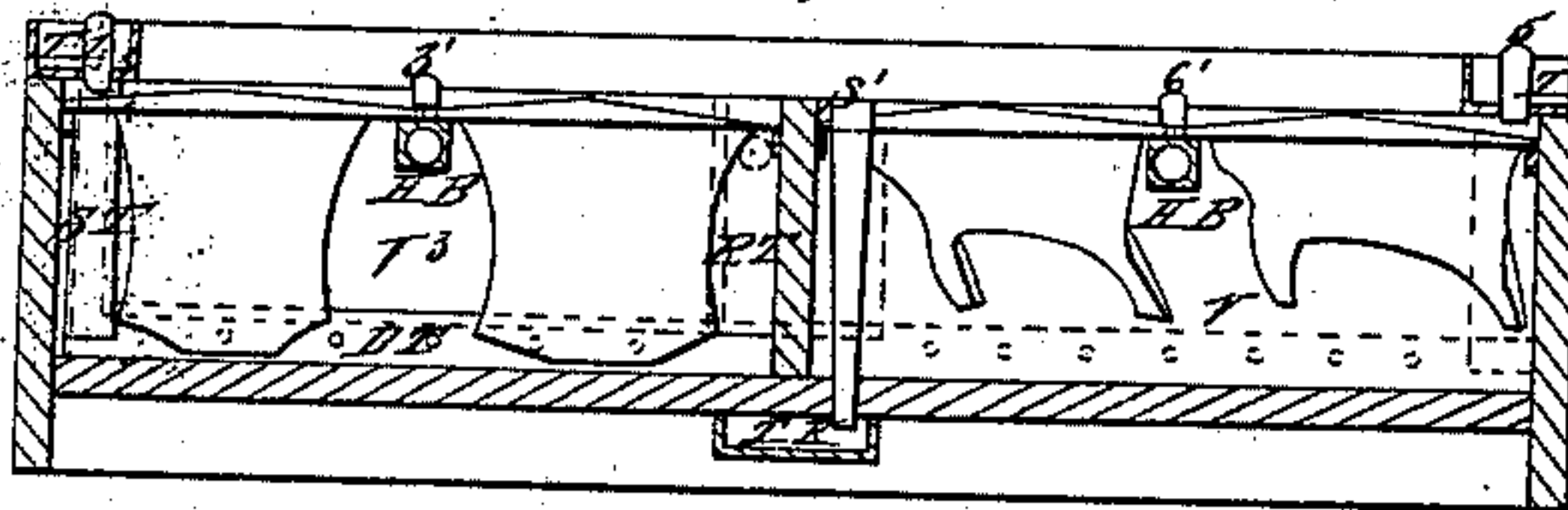


Fig. 4.

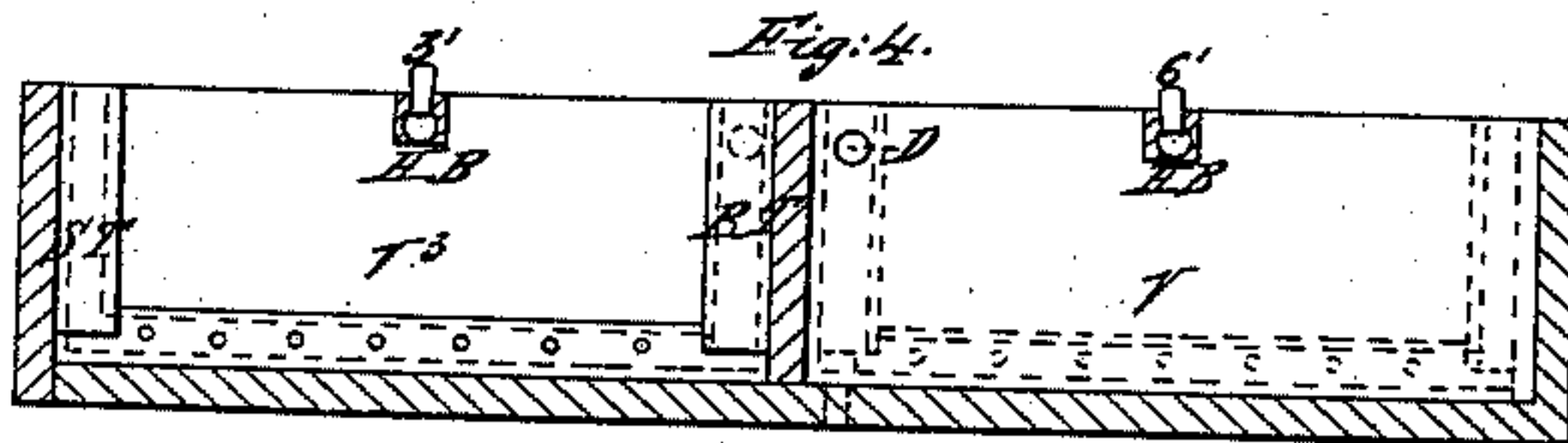


Fig. 5.



Witnesses:

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LEWIS C. ENGLAND, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 68,861, dated September 17, 1867.

IMPROVED TANNERY.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LEWIS C. ENGLAND, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and improved "Tannery," for tanning hides, skins, etc., etc.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Plate 1, Figure 1, is a top view of my tannery, showing the arrangement of vats.

Plate 2, Figure 2, is a vertical section with the front end removed.

Plate 2, Figure 3 is a vertical section through A B.

Plate 2, Figure 4, is a section showing the arrangement of the perforated tubes in the bottom of vats.

Plate 2, Figure 5, is a side and edge view of the hanging-bar.

The object of my invention consists in the arrangement of a "tannery," so provided with tubes, bars, trunks, vats, etc., etc., as hereinafter described, that I am enabled to make a better quality of leather in much less time, and at a great saving of expense and labor. In the present style of tanning and running the liquors the stock during the process requires more or less labor of handling, by moving it from one vat to another, or raising the stock out of the vats at intervals of two or three weeks to give it fresh and stronger liquor and new bark, whereas by my process this is all overcome. When the stock is once secured to the hanging-bars and placed in the tan-vats it remains undisturbed until well tanned.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

I construct my tannery of any number of vats, $V V^1 V^2 V^3 V^4 V^5$, (from one to a hundred or more, as required,) and in the shape as shown in plate 1, fig. 1, and with a capacity for holding one hundred hides, more or less. On top, and bordering on the three outer edges of the vats, I place troughs T, T', and T''. Troughs T and T'' are connected at the front end of the tannery by means of pipe or tube C T, connecting T and T'', and on the inside of the vats, running to the bottom, are supply-tubes S T, with openings regulated by plugs 1 2 3 4 5 6, supply-tubes S T connecting at the bottom with perforated tubes D T, which run the length and on the bottom of the vats, as shown in plate 2, fig. 3. On the opposite end of perforated tube D T are connected tubes R T, fig. 4, which regulate the different degrees of liquor from one vat to the other. Tubes R T are provided with openings A B C D E F, and closed by means of plugs A' B', as hereinafter described. On the front end of the tannery are constructed what are called junks, and I will designate them as junk No. 1 and junk No. 2. No. 2 is for the purpose of receiving the weak or spent liquor, which passes through hollow beams H B, said beams being so constructed as to run through the centre or on the sides of the vats, and being connected with each vat, and receiving the liquor through openings 1' 2' 3' 4' 5' 6', which are closed by means of plugs. Running through the centre of the tannery, and underneath the bottom of the vats, is placed a trunk, T K, for the purpose of carrying off liquors from the bottom of vats to junk No. 1. Trunk T K is connected with the vats by means of openings L M N O P S, which are provided with long plugs which extend to the top of the vat, as shown in fig. 3. Beams H B, when placed in the centre of the vats, serve as supports for hanging-bar I B, fig. 5, said bar being made of wood or other suitable material, and provided with a lug on the ends and centre for the purpose of allowing a space between the hides, and to prevent sticking together, and insure a free access of the tanning-liquor.

Operation: The hides are first brought from the beam-house and tacked on the hanging-bar I B, and then placed in proper position in the vats, that is, one end resting on beams H B, and the other on cleats on the partition and sides of vats. The liquor is now prepared at the leaches, and is then conveyed and run into trough T'', at the front part of the tannery. I now remove plug 6 and close opening F with plug A', and allow the liquor to pass into supply-tube S T, and from thence it passes into perforated tube D T, which thus diffuses the strength of the liquor throughout the vat. The liquor then rises to opening D. I then remove plug B', and the liquor passes through D into vat V^1 , through perforated tube D T, and so on through all the vats, until all are filled with the weak or preparatory liquor. I now remove plug in opening 3', and at the same time leaving plug 6 out, and admit stronger liquor into vat V in the above-described manner, the stronger liquor being the heaviest, the weaker liquor rises to the top and flows over into vat V^1 , through opening D, and so

on throughout the tannery until it arrives at the last vat, where it flows out opening 3' into junk No. 2, where it is used again, if containing any tannin, or drawn off and thrown away. I now continue adding stronger liquor and endeavor to keep the temperature at 70°, or about, until the hides in vat V are tanned. The vat V is now full of strong liquor and the hides thoroughly tanned, and I now wish to transfer this liquor into V¹, and take out the tanned hides and replace them with a green or fresh pack; also to clean out the vat of any sediment, dirt, etc., that has collected in it during the process of tanning. I then proceed to transfer the liquor into vat V¹ by first closing opening D with plug B' and insert plug 6, and then extract plug in opening S', and the liquor then runs into trunk T K, and from thence into junk No. 1. Vat V is now empty. I now remove the tanned hides and replace them with a green or fresh pack, and at the same time clean out the vat. I now remove plug A' from opening F, and also remove plug 5. I then start the pump and pump the liquor that is in junk No. 1 out into trough T, which then passes around the troughs to the opening caused by the removal of plug 5 into vat V¹. The tube C T now comes in use. Instead of waiting for the liquor to pass completely around the tannery, a portion of it will run across through tube C T, connecting T and T'. The strong liquor flowing into vat V¹ will force the weaker liquors into vat V², and from thence into vat V³, and so on throughout the tannery until it reaches vat V⁵. The green hides in vat V, already mentioned, are now receiving the weak liquor from vat V⁵, which flows through opening F. When vat V is filled with liquor I remove plug 6', thus allowing the spent liquor to run into junk No. 2. The strong liquor from the leaches is now allowed to run into vat V¹, through opening caused by the removal of plug 5, until these hides are thoroughly tanned, as in those that I first commenced operating with in vat V, and this process is continued throughout the tannery, the oldest stock always receiving the strongest liquor, and the weaker liquor passing on to green or last hides placed in the vats.

I construct my tannery entirely of wood, but I reserve the right of using any other suitable material that will accomplish the desired purposes.

Having thus described my invention, its construction and operation, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. Hanging-bars I B, with centre and end lugs, constructed and operating in the manner herein set forth and described.
2. The arrangement of conveying off the weak or spent liquors from the tan-vats, either by a hollow beam, H B, with openings 1' 2' 3' 4' 5' 6' placed near the top and running through the centre, or on the side of the vats, or any other arrangement substantially the same to accomplish the desired purpose.
3. Troughs T, T', and T'', supply-tubes S T, perforated distributing-tubes D T, tube R T, junk No. 1 with pump, junk No. 2, and connecting-tube C T, all constructed and combined in the manner and for the purpose above set forth and described.
4. A tannery constructed and arranged in the manner herein described.

LEWIS C. ENGLAND.

Witnesses:

CHARLES H. EVANS,
ISAAC R. OAKFORD.