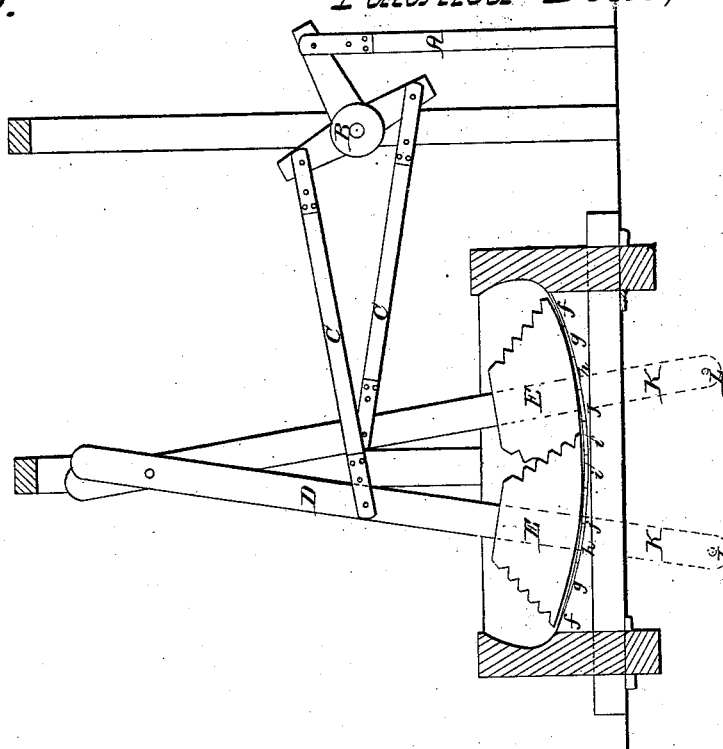
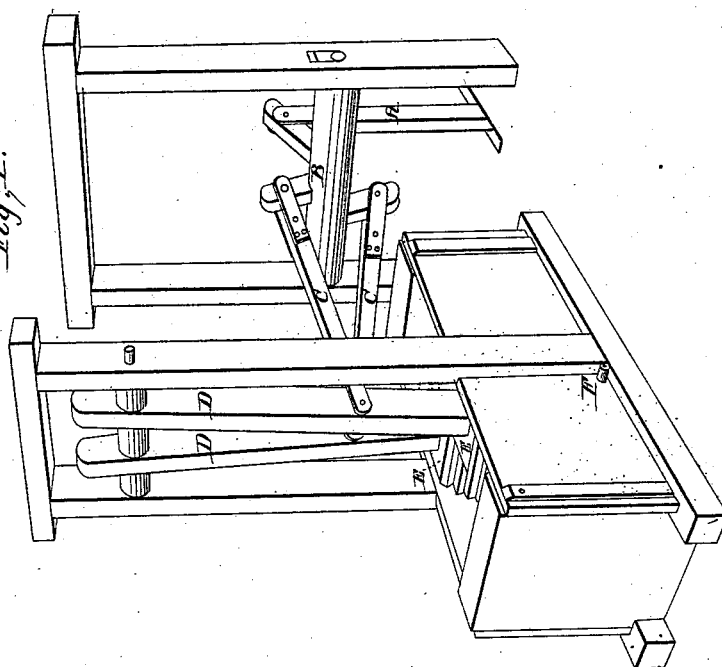


*D. H. Mason,*  
*Tanning Machine,*  
*N<sup>o</sup> 2,868.      Patented Dec. 5, 1842.*

*Fig; 2.*



*Fig; 1.*



# UNITED STATES PATENT OFFICE.

DAVID H. MASON, OF DAHLONEGA, GEORGIA.

## TANNING BY MACHINERY.

Specification of Letters Patent No. 2,868, dated December 5, 1842.

*To all whom it may concern:*

Be it known that I, DAVID H. MASON, of Dahlonega, in the county of Lumpkin and State of Georgia, have invented and made certain new and useful Improvements in the Process of Tanning, so that by my mode of operation hides or skins are tanned in a shorter time than by the usual methods.

The following is a full and exact description of my improvements.

As a means by which my improvements are carried into operation, I use a mill which is in some respects of a new construction, which I have devised for the purpose. This mill is of the kind commonly called "the swinging stocks." The following description of the mill shows wherein it differs from those ordinarily used.

The letters refer to the drawings, which form a part of this specification.

Figures 1 and 2. A, the pitman, attached to the crank of the wheel, from which the power is derived. B, the rocking or tumble shaft. C, C, the connecting rods. D, D, the shafts of the stocks. E, E, the stocks. F, a plug, to run off the liquor from the mill. Fig. 2. f, f, g, g, h, h, i, i, the ends of the floor boards, composing the bottom of the mill. J, J, two narrow floor boards, that may be taken out, and replaced when required. K, K, the dotted lines, show the shafts of the stocks extended through and below the bottom of the mill, to which the connecting rods were attached at L, L, according to the old arrangement, consequently an opening was left in the bottom of the mill, to give room for the motion of the shafts.

This mill differs from those previously constructed, in its being actuated by a rocking or tumble shaft, instead of a double crank, and the connecting rods are attached to the shafts of the swinging stocks, above the stocks, instead of attaching them below the stocks under the mill, as was the former practice. This arrangement enables me to make an entire flooring under the stocks, and consequently to make the mill water tight, which is a peculiar difference from those previously constructed, and is an essential feature in the means by which my improvements in tanning are carried into practice. A cover is used over the body of the mill to prevent any liquid from being dashed out by the action of the stocks. The flooring or bottom of this mill is so con-

structed that two narrow strips can be taken out when the mill is required to be worked without any liquid, as is the case in dressing furs and glove leather; and the narrow strips can be replaced when required. A hole is bored in one side of the mill, and a plug fitted to it; through this hole any liquid may be run out of the mill when required, and by suitable pipes or conductors, a stream of water or any liquid may be made to flow continually through the mill.

The kind of mill commonly denominated "the falling stocks," by a similar arrangement to the above, could be made water tight, and thus modified, would be suitable to carry into practice the several parts of my improvements.

A machine, similar to the ordinary dash wheel, consisting of a hollow cylinder or drum, constructed so as to turn on gudgeons, having partitions on the inside and running lengthwise the cylinder, fitted with a man-hole and cover, and made water tight, or any other mechanical device, operating by pounding, stamping, squeezing or pressing, producing an effect like that of the stocks, so that the hides or skins can be alternately forced together, and again expand, while they are in and surrounded with tanning liquor, would be suitable to carry out the operations of my improvements, which does not consist so much in the peculiar construction of the machine as in the process of beating the skins.

My first improvement in the process consists in the manner of taking the lime out of hides or skins, which is effected as follows: After the hides or skins have been limed, the hair taken off, and rinsed in water, they are then put into the mill with clean water, or a stream of water is made to run among the hides or skins and through the mill, when by the action of the stocks, a part of the lime is forced out, and unites with the water, again the water is partly forced in and partly absorbed by the hides or skins, and again forced out with more lime, and so on alternately, till the hides or skins are completely cleansed from the lime.

Another method which I consider preferable in removing the lime, is to work the hides or skins in the mill with sour tannin liquor; by the action of the stocks, the lime is forced out, and the acid and lime unite with facility, so that in a short time the hides or skins are cleansed from the lime.

These processes are attended with far less danger to the hides or skins than by the ordinary mode, with bran-liquor, or the grainer made of hen's or dog's dung. Pyro-  
5 ligneous acid, or vinegar, or any of the acids which form a soluble salt with lime will answer the purpose, provided they are sufficiently diluted with water.

My second improvement consists in working  
10 ing hides or skins in the mill with tanning liquor. By the action of the stocks the tanning liquor is partly forced in, and partly forced out, and partly forced through, and partly absorbed by the hides or skins, and so  
15 on continually, so that the tanning liquor is brought into contact with the fiber of the hides or skins, and a union is thereby facilitated, and the operation of tanning is performed in a shorter time than by the  
20 usual methods.

Ordinarily I use a weak liquor in the first part of the operation, and proceed with stronger liquor from time to time, increasing in the strength till the tanning is completed.  
25 But sometimes I use a strong liquor through the whole operation, and sometimes I work the hides or skins in the mill with tanning liquor a short time, and then lay them away in vats, and again work  
30 them in the mill, and so on alternately till the tanning is completed. Again, I work the hides or skins in the mill with a solution of common salt, or with a solution of alum, or with a solution of salt and alum  
35 combined, and sometimes after the hides have been worked in salt or alum, I work

them in the mill with tanning liquor, and thus I combine the process of tanning and alum dressing by the operation of the mill, by which means either of these operations  
40 are greatly facilitated.

In the foregoing description, where I have used the term tanning liquor, I do not mean to confine my improvement to the use  
45 of any one kind of tanning liquor, but include those extracted from oak bark, hemlock bark, nut galls, sumac, and any other substance from which tannin is ordinarily extracted.

What I claim as my improvements, and  
50 desire to secure by a patent, consist,

1. In the employment of a mill as above described, whether made like the "swinging stocks," or in any other form in which  
55 its action upon the skin is substantially the same, for the purpose of tanning, and otherwise operating upon skins in the process of tanning.

2. And the forcibly working hides or skins in the mill denominated the swinging  
60 stocks, or other suitable machine with tanning liquor, or working them partly in the mill, and partly in vats, or working hides or skins partly in the mill with salts, and partly with tanning liquor, as has been set  
65 forth and described in the foregoing specification.

DAVID H. MASON.

Witnesses:

W. H. STANSELL,  
JOHN D. FIELE, Jr.