

H. REED.
Tanning Apparatus.

No. 158,438.

Patented Jan. 5, 1875.

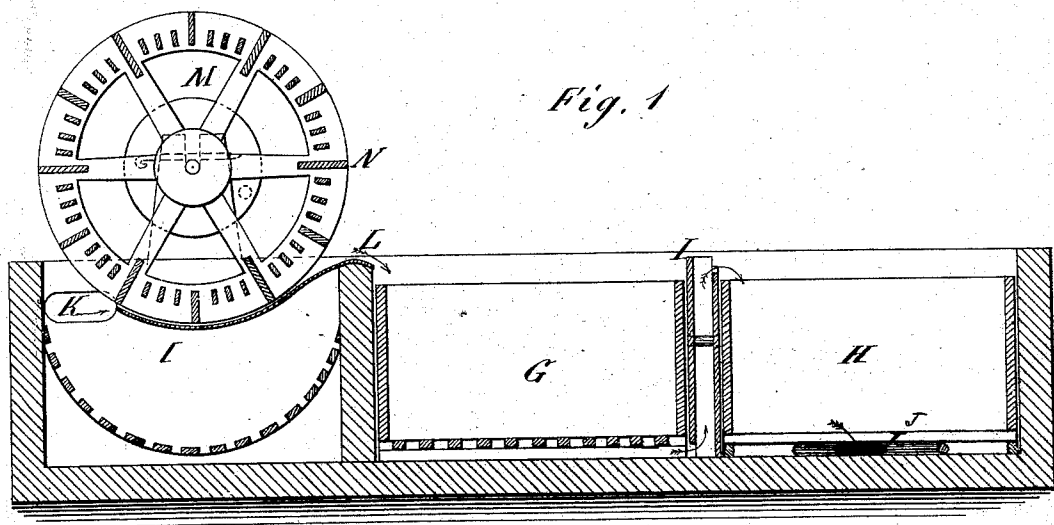


Fig. 1

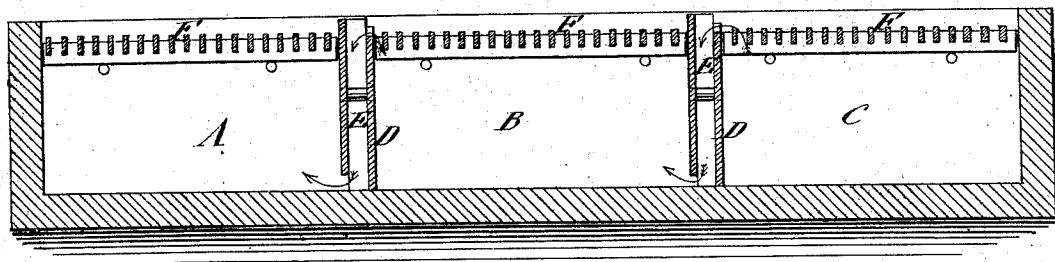


Fig. 2

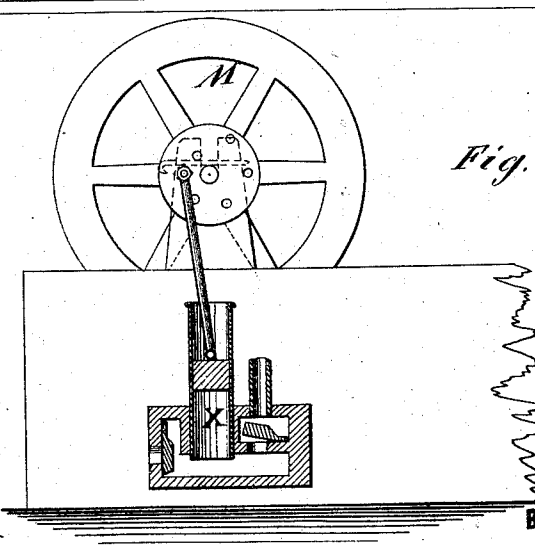


Fig. 3

WITNESSES:

C. Novak
A. J. Terry

INVENTOR:

Harvey Reed
BY *Wm. C. Le*
ATTORNEYS.

H. REED.
Tanning Apparatus.

No. 158,438.

Patented Jan. 5, 1875.

Fig. 4

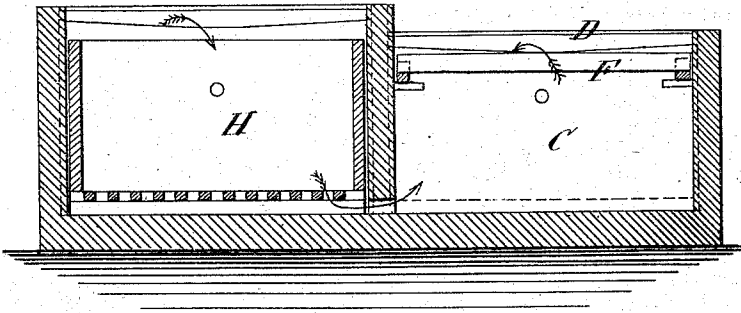
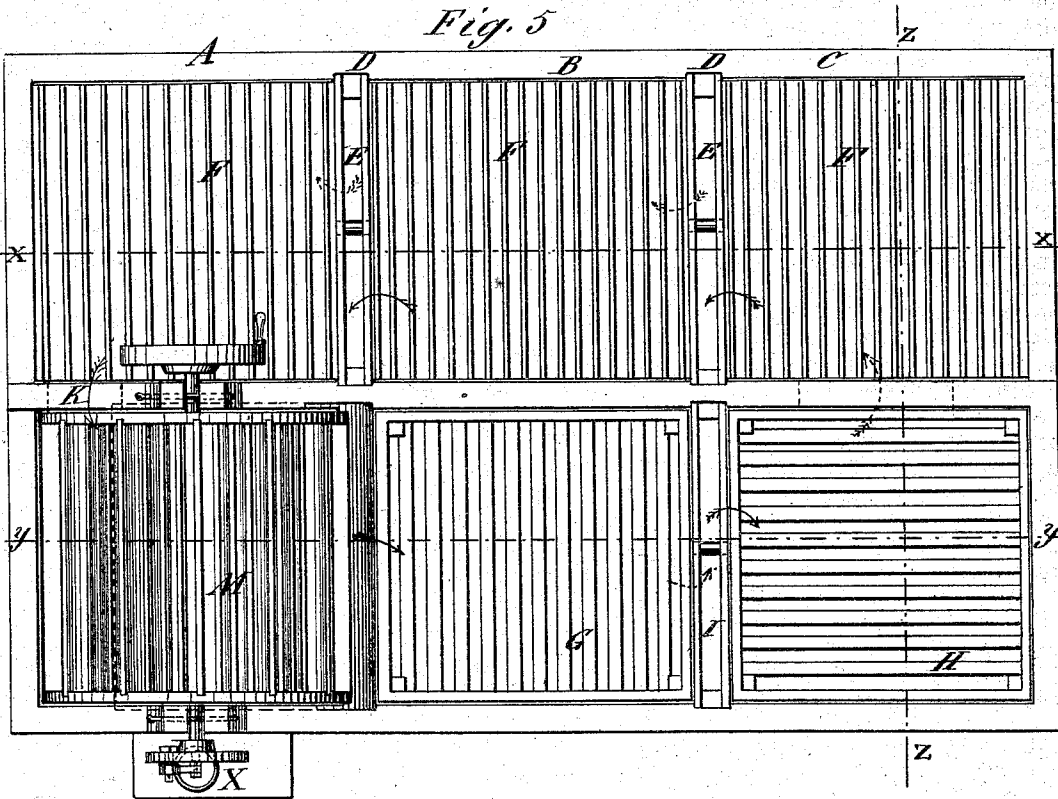


Fig. 5



WITNESSES:

C. Novak
A. F. Terry

INVENTOR:

Harvey Reed
BY *Wm. L. [Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HARVEY REED, OF ATLANTA, GEORGIA.

IMPROVEMENT IN TANNING APPARATUS.

Specification forming part of Letters Patent No. **158,438**, dated January 5, 1875; application filed December 5, 1874.

To all whom it may concern:

Be it known that I, HARVEY REED, of Atlanta, in the county of Fulton and State of Georgia, have invented a new and Improved Tanning Apparatus, of which the following is a specification:

This invention consists of the tan-vats contrived with removable partitions and sliding and removable racks for supporting the skins; also, with an arrangement for circulating the liquor through the leaches and vats in an endless course, so that the skins may be put in at the end of a series of vats, out of which the liquor is forced into the leaches again and shifted along, from time to time, to the other end, into which the liquor flows again after being renewed in the leaches, and from which the tanned batches are lifted into the drying-house; and the leaches are arranged in a series and introduced into the endless channel for the liquor at one end with new material, and shifted along to and removed with the spent material at the other end, so that the exhausted liquor enters the oldest leach as it comes from the vats, and passes to the newest in going back to the vats, and thus extracts the tannin and applies it to the skins most effectually. My invention also consists of a softening and scouring wheel contrived to produce the current of liquor, and having outwardly-projecting floats to act on the water, and inwardly-projecting floats to scour and rub the hides placed in it, while the liquor is pumped up into it as it revolves.

Figure 1 is a sectional elevation through the scouring-wheel and the leaches, taken on line *yy* of Fig. 5. Fig. 2 is a section through the tan-vats, taken on line *xx* of Fig. 5. Fig. 3 is partly a side elevation and partly a sectional elevation. Fig. 4 is a transverse section on line *zz* of Fig. 5, and Fig. 5 is a plan view.

Similar letters of reference indicate corresponding parts.

A, B, and C represent a series of vats, separated by removable partitions D, contrived with a passage, E, for the liquor to pass through the series from C to B and A. F represents the racks on which the skins are hung in the liquor. They are arranged to slide along from one vat to another when the partitions are removed. G and H represent the leaches, which

are also separated by a removable partition, I, through which the liquor flows from G to H. From H there is a passage, J, through which the liquor passes into tan-vats C. K is a passage from vat A into wheel-pit I, from which the liquor is forced over the partition L into leach G by the wheel M, which maintains a continuous endless current through the leaches and the vats. The wheel has blades N projecting outwardly from the rack O, which confines the hides in the wheel, and also projecting inwardly for scraping and scouring the hides, on which the liquor is forced by the pump X through the wheel. The leaches are put in at H when filled with fresh material, and removed at G when the tan material is spent, being shifted from G to H as the work progresses.

The hides are put in at A and shifted along to C during the tanning process, and removed at C when tanned, a new batch being put in at A as a batch is removed at C. Thus it will be seen that the liquor passes from the old to the new material in the leaches, and from the old to the new stock in the tan-vats, so as to have the best results in extracting the strength of the tanning material, and it acts on the old stock when strongest and the new stock when weakest, which also gives the best effects.

The apparatus is also applicable to the green-house, in softening the hides, plunging and circulating the limes, taking off the hair, working the vats, and cleansing the hides ready for the tan.

The invention is particularly adapted to warm climates, where tannic vegetation grows spontaneously, and can be raised near markets where bark is not accessible.

This process of leaching is so effectual as to extract the strength from any tanning substance.

Bark, when placed on end, as it may be in this method, will give up its strength with less bloom and gallic acid, which are injurious to the leather.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, in a series of tan-vats, of removable partitions and racks for suspending the hides, substantially as specified.

2. The combination of a series of tan-vats, a

series of leaches, and a propelling-wheel, arranged as described, the leaches and the vats provided with passages for an endless current of the liquor to be forced around through the leaches and vats in succession, substantially as specified.

3. The combination of a series of removable leaches and removable partitions, substantially as specified.

4. The wheel M, provided with internal and external projecting blades, as arranged, adapted to soften and scour hides or skins, and to keep the liquor in continuous circulation, substantially as and for the purpose described.

HARVEY REED.

Witnesses:

SAMUEL HOPE,
JAMES P. KELLY.