W. COUPE.

Machine for Boarding or Breaking Rawhide.

No. 199,415. Patented Jan. 22, 1878.

Fig: 1.

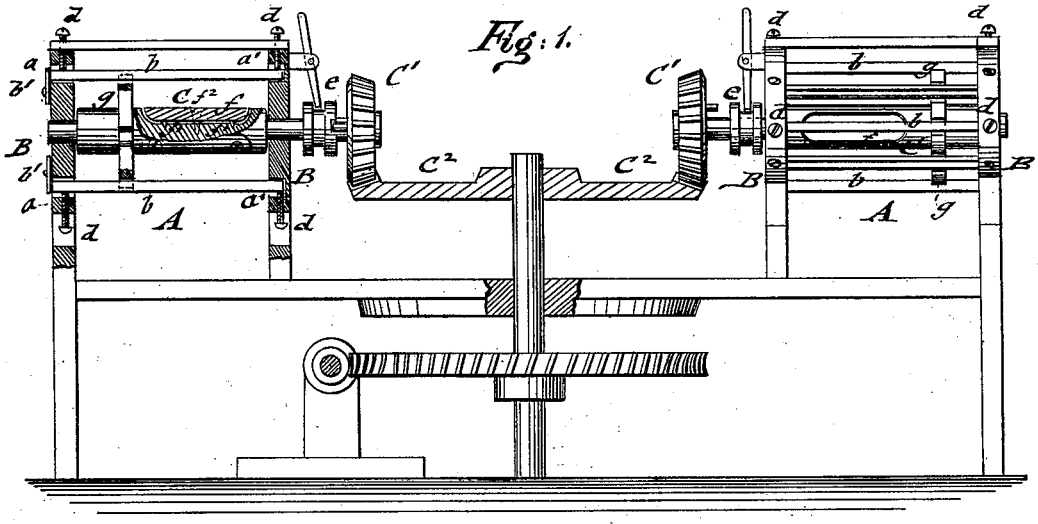


Fig: 2.

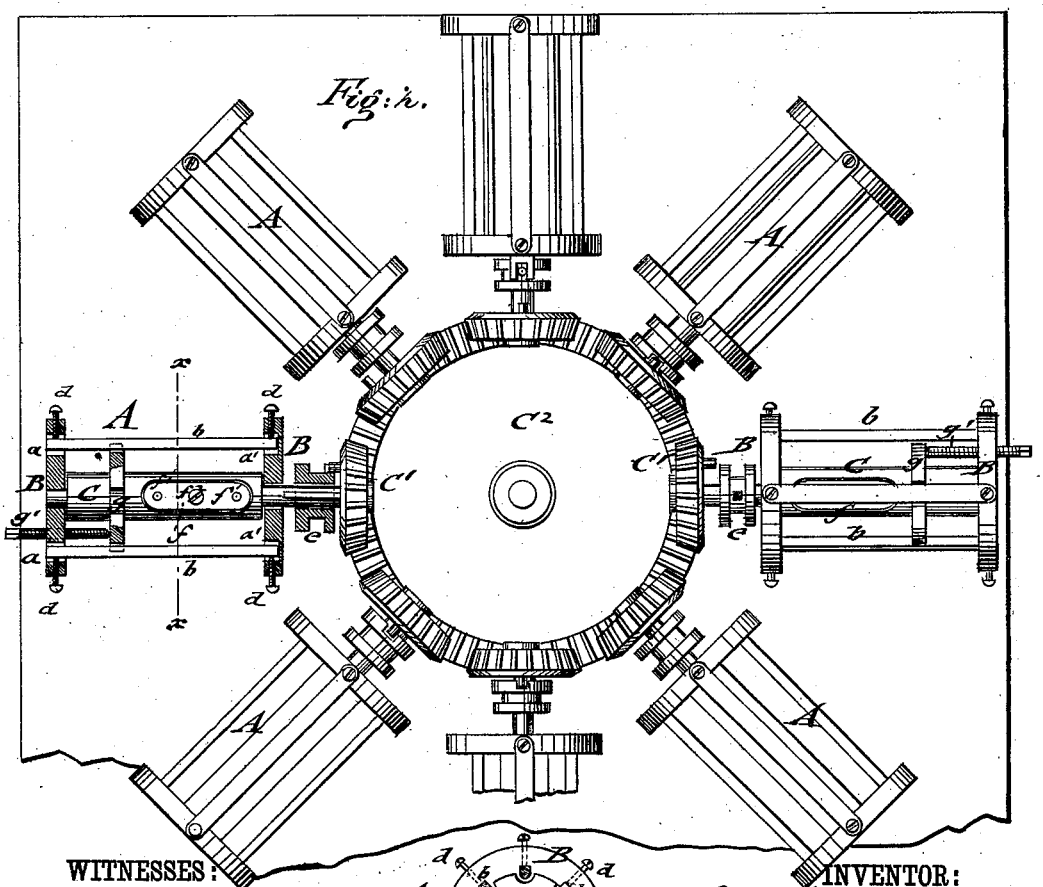
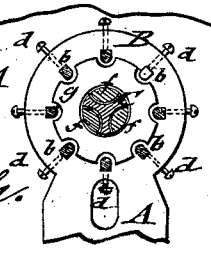


Fig: 3.



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WILLIAM COUPE, OF SOUTH ATTLEBOROUGH, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR BOARDING OR BREAKING RAWHIDES.

Specification forming part of Letters Patent No. **199,415**, dated January 22, 1878; application filed November 12, 1877.

To all whom it may concern:

Be it known that I, WILLIAM COUPE, of South Attleborough, county of Bristol, and State of Massachusetts, have invented a new and Improved Machine for Boarding or Breaking Rawhides, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a side elevation, partly in section, of my improved machine for boarding or breaking rawhides. Fig. 2 is a plan view of the same, and Fig. 3 a vertical transverse section on line *x x*, Fig. 2, through one of the cribs.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide, for the purpose of treating rawhides in place of tanning them, an improved machine by which the hides may be "boarded" or broken by mechanical means solely, without the employment of moisture and chemical agents, the machine finishing the hides in rapid manner, and requiring but one attendant to supply and remove the hides from the cribs.

The invention will first be described in connection with the drawings, and then pointed out in claims.

Referring to the drawings, A A are a number of cribs, that are arranged equidistant from and radially to a common center. The cribs A are formed of stationary heads B, of disk shape, which are supported on suitable standards. The outer stationary heads B are provided, at some distance from their center, with short guide-slots *a*, and the inner heads with corresponding socket-recesses *a'* for the cross-bars *b*, that extend from head to head, and are adjusted nearer to or farther from the center by set-screws *d*. The heads B are stiffened or braced at their top part by connecting rods or bars of suitable strength, to prevent any springing or spreading of the heads. The cross-bars *b* of the cribs are inserted from the outside through the slots of the outer heads, and placed into the recesses of the inner heads, as shown in section in Fig. 1, and then retained in this position by pivoted end plates or buttons *b'*, that close two adjoining slots, *a*, and prevent the playing out of the cross-bars during the working of the machine.

Each crib A is provided with a revolving center-shaft, C, that turns in bearings of the heads, the shaft being extended beyond the inner head, and carrying a loose bevel-wheel, C', revolved by a worm-gear from a power-shaft with suitable reversing-gear. Each shaft C is thrown in or out of gear with the bevel-gear by a separate clutch mechanism, *e*, outside of the inner heads B. The shaft C is arranged at that portion between the heads, with detachable clamp-sections *f*, that fit into concave recesses of the shaft, and serve to attach two or more rawhides, according to their size, to the same, and hold them firmly clamped by means of spurs f^1 and fastening-screws f^2. When the rawhides are thus firmly attached to the shaft the same is thrown into gear, and the hides are wound up around the same. A false head, *g*, with recesses for the cross-bars, slides on each shaft, and is adjusted laterally by a set-screw, *g'*, so as to confine the hides into a narrower compass. When the hides are thus wound up on the shaft the cross-bars are tightened down on them, and the next shaft is supplied with hides, and so on until all the cribs are full, and revolve by being thrown into gear with the center bevel-wheel. The pressure of the gradually-tightened cross-bars (which are rounded off at the inside) on the hides produces the tight lapping of hides around the shaft. When the hides have been revolved in the cribs in one direction for a sufficient length of time, the motion of the operating-gear is reversed, and thereby the shafts turned in opposite direction. This causes the forcible reversing of the hides from the shaft to the outside, and as the hides are retained by the cross-bars and the false and permanent heads, the so-called "boarding" or breaking up of the same is obtained by the powerful strain exerted thereon.

When the position of the hides on the shafts is thus changed, and the same are lapped in opposite direction to the former around the shafts, the motion of the driving-gear is again reversed, and thereby the position of the hides changed, in the same manner as before, from the inside to the outside, which reversing or changing is continued until the hides are sufficiently boarded or broken. They are then successively removed from the cribs by throwing one shaft after the other out of gear, and

are thus obtained in a tanned state, ready for being cleansed and scraped, the tanning being thus obtained by the exposure of the hides to powerful mechanical action in place of the treatment by chemical agents, as heretofore.

The apparatus is readily attended by one or two workmen that charge or empty the cribs successively, being capable of finishing the hides in a quicker, superior, and more economical manner than by the tanning processes heretofore employed.

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

1. The combination of the outer heads provided with guide-slots *a*, the inner heads with socket-recesses *a'*, the cross-bars *b*, pivoted buttons *b'*, and set-screws *d*, as and for the purpose set forth.

2. The combination, in a crib for breaking rawhides, of the outer slotted and inner recessed heads, with retaining cross-bars supported in the heads, and with pivoted plates or buttons of the outer heads, for securing the rigid position of bars, substantially as described and specified.

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