

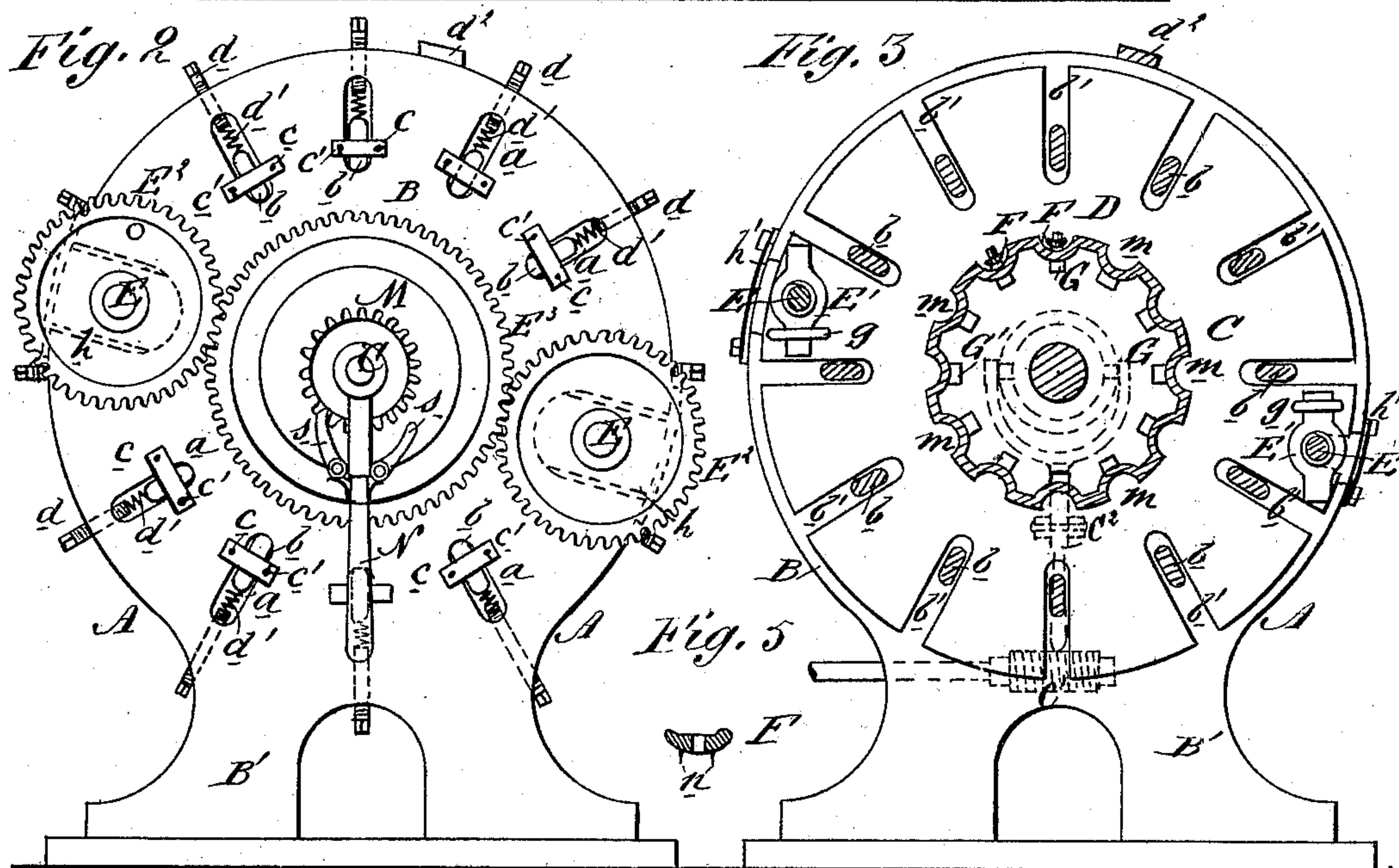
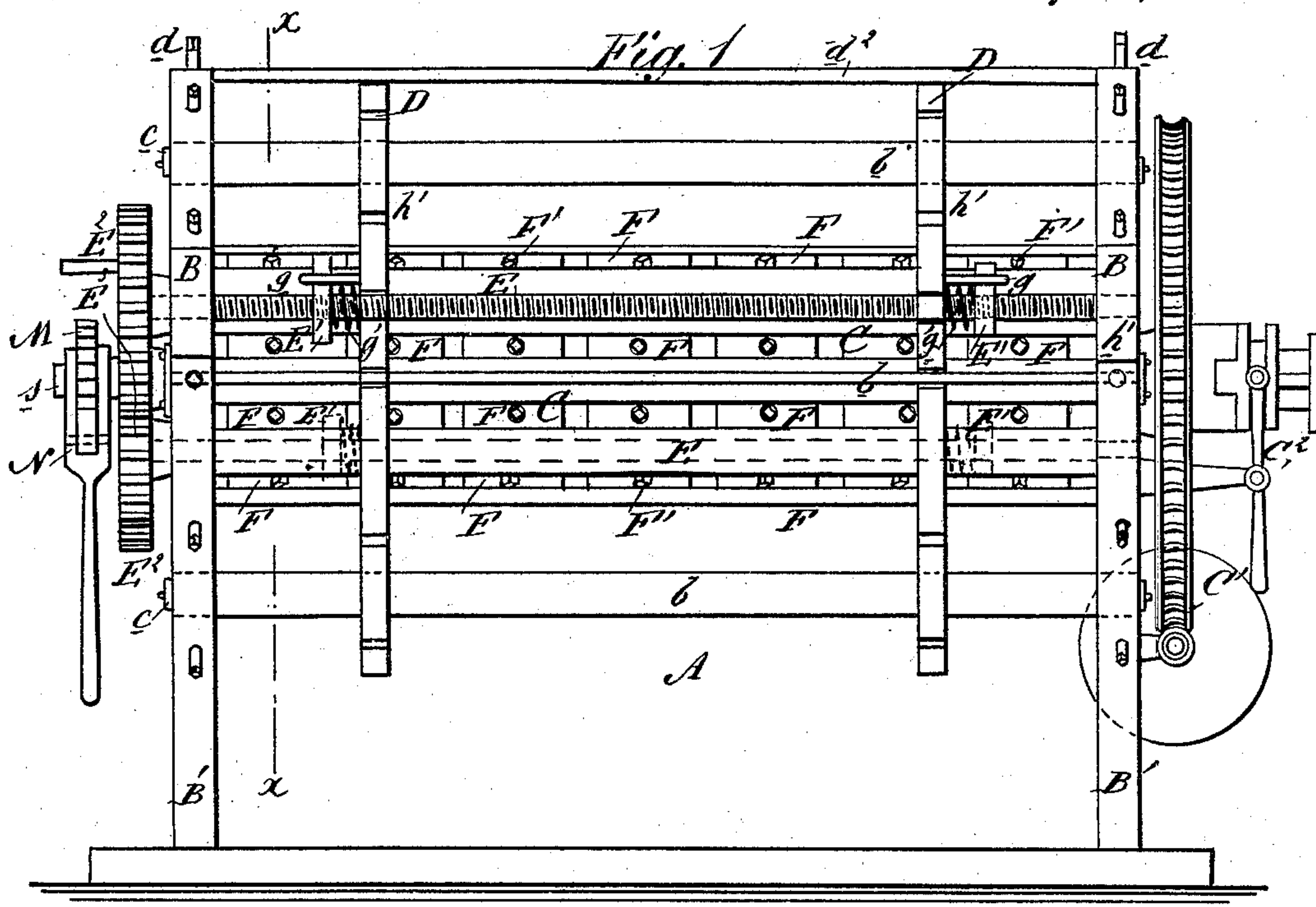
(No Model.)

W. COUPE.

Machine for Boarding and Breaking Raw Hides.

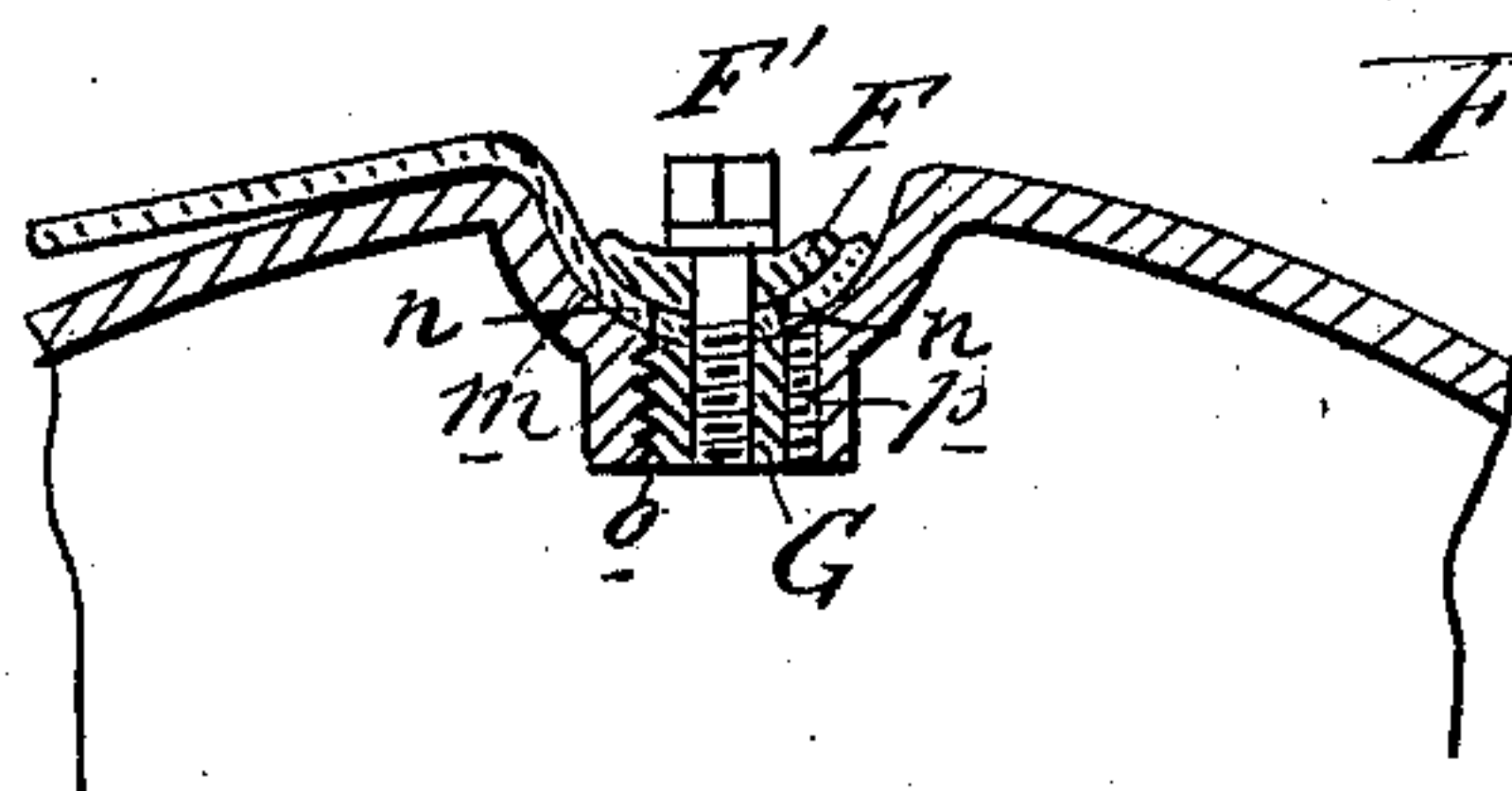
No. 241,308.

Patented May 10, 1881.



WITNESSES:

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INVENTOR:

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# UNITED STATES PATENT OFFICE.

WILLIAM COUPE, OF SOUTH ATTLEBOROUGH, MASSACHUSETTS.

## MACHINE FOR BOARDING AND BREAKING RAW HIDES.

SPECIFICATION forming part of Letters Patent No. 241,308, dated May 10, 1881.

Application filed March 31, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM COUPE, of South Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Machines for Boarding and Breaking Raw Hides, of which the following is a specification.

This invention is designed as an improvement on the machine for boarding and breaking raw hides for which Patent No. 202,414 was issued to me April 16, 1878; and its object is to increase the effectiveness of the machine.

In the machine above alluded to short concave recesses were formed about the center portion of the drum, in which the hides were clamped by one end, a single clamp serving for each hide; hence the hides did not spread evenly, the strain upon them was all at one point, and the breaking was not so effective as might be.

This invention consists of a hide-securing drum having parallel grooves or recesses extending throughout its length; and it consists, further, in inserting steel bushings in the bottom of said grooves or recesses, to form more durable sockets for the clamp-screws.

Figure 1 is a side elevation of my improved machine with parts removed to exhibit other parts. Fig. 2 is an end view of the same. Fig. 3 is a sectional end elevation on line  $x x$ , Fig. 1. Fig. 4 is an enlarged sectional elevation of a portion of the hide-securing drum, showing a bushing, clamp, and clamp-screw in position. Fig. 5 is a side elevation of a clamp.

Similar letters of reference indicate corresponding parts.

In the accompanying drawings, A represents a crib, that is made of stationary or fixed heads B, of disk shape, supported on suitable standards, B'. These stationary heads B are provided at some distance from their centers with short radial guide-slots  $a$ , of which the slots of one head are closed, so as to form sockets, while the slots of the other are open for removing or inserting the cross-bars  $b$ , that extend from head to head, said bars  $b$  being adjusted nearer to or farther from the centers of the disks B by radial set-screws  $d$ , and cushioned by spiral springs  $d'$ . The heads B are stiffened at the top by connecting rods or bars  $d^2$ , of suitable strength to prevent any springing or spreading

of said heads B. The cross-bars  $b$  are retained, when inserted in the guide-slots and socket-recesses  $a$ , by means of pivot-plates  $c$ , locking over buttons  $c'$ , so as to prevent the working out of said cross-bars  $b$  during the operation of the machine.

The crib is provided with a center drum, C, that revolves in center bearings of the permanent heads B, and is alternately turned by suitable gearing and reversing mechanism, first in one and then in opposite direction, a worm and wheel, C', being preferably the mechanism for transmitting motion to the said drum C, and an ordinary clutch mechanism, C<sup>2</sup>, being designed to throw the said drum C in and out of gear with said mechanism C'.

On the drum C are arranged, between the stationary heads B, two false heads, D, that are provided with radial recesses  $b'$ , for the cross-bars  $b$ , said recesses  $b'$  extending from the circumference toward the center of said heads D. These false heads D are laterally adjusted on the drum C by means of two right and left hand screw-rods, E, of which one is arranged on each side of the crib, and by traversing nuts E', that are engaged by elbows or hook-bars  $g$  of the false heads D. Between the false heads D and traversing nuts E' are interposed spiral cushioning-springs  $g'$ , by which the rigid bearing of said false heads D on the hides secured in the center drum, C, is diminished, and thereby a certain degree of yielding imparted to said heads D. The cross-bars  $b$  are cushioned by their spiral springs  $d'$  for the same purpose.

The ends of the screw-rods E are connected at one side by gear-wheels E<sup>2</sup> with an intermeshing center crank-wheel, E<sup>3</sup>, that turns loosely on the center shaft, C, so as to produce the simultaneous adjustment of the traversing screw-nuts E' and false heads D either toward or from each other, according as the hides are to be confined within narrower compass before breaking them or for removing them after the breaking operation is completed. The screw-rods E turn in detachable journal-boxes  $h$ , that are set into recesses of the stationary heads B, and are firmly retained therein by pivoted and locking cross-straps  $h'$ , the boxes  $h$  and screw-rods E being removed from the heads B when the hides are put on or taken from the center drum, C.



The hides are firmly clamped at one end, along the whole extent or margin thereof, in the longitudinal recesses *m* of the drum C, by means of detachable dogs or clamps F, that fit into the concave recesses *m* of said drum C, and hold the hides firmly by means of their spurs *n* and screws F', which latter pass centrally through said clamps F and the hides into the steel bushings G, that are held in corresponding sockets *o* in the drum C by side pins, *p*. By this arrangement the hides are spread over the entire lateral surface of the drum C, between the false heads D. This drum C is preferably hollow and of cast-iron, with a wrought-iron or steel shaft to insure sufficient resistance against the operating strain brought upon it. In machines of ordinary size this drum C is about seven feet long, and seven six-inch dogs or clamps, F, are applied in each recess *m*, there being preferably twelve recesses, *m*, in a drum, C, of sixteen inches in diameter. When the hides are thus attached to and wound on the drum C the false heads D are moved up so as to confine the said hides laterally to the required degree, and then the cross-bars *b* are inserted into the stationary and false heads B D. The pressure of the gradually-tightened cross-bars *b* and false heads D produces the tight lapping of the hides around the drum C as the latter is revolved. The drum C being set in motion, first in one and then in reverse direction, the hides are broken or boarded in uniform manner all through. The even distribution of the hides along and around the drum C, because of the long grooves or recesses *m*, causes said hides to be broken more thoroughly and evenly than is done in other machines where their points of attachment are more circumscribed.

A special advantage of the bushings C is that they last in good condition for a long time,

and when worn can readily be replaced, thus making the drum C more durable.

On one end of the drum C a ratchet, M, and lever and dogs N s, respectively, may be placed, whereby said drum C may be slightly turned in either direction, if necessary, for the more convenient attachment of the hides.

In order to facilitate the softening of the hides or leather and keep up a uniform temperature in the crib, it is designed to admit into the hollow part of the drum a jet of steam through a small hole drilled into the center of the drum shaft, also a corresponding hole on the other end of the shaft to allow the condensed steam to escape.

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

1. In a machine for boarding and breaking hides, the drum C, having parallel recesses *m* extending its whole length, substantially as herein shown and described, whereby the hides may be secured at several points and spread over the entire lateral surface of the drum, as set forth.

2. In a machine for boarding and breaking hides, the combination, with the longitudinally-recessed drum C, provided with sockets *o*, of the bushings G, substantially as herein shown and described, whereby the clamping-screws are held, as set forth, and the durability of the drum increased.

3. In a machine for boarding and breaking hides, the combination, with the recessed drum C, of the adjustable ratchet, lever, and dogs M N s, substantially as and for the purpose described.

WILLIAM COUPE.

Witnesses:

WILLIAM P. SHAW,  
CHARLES W. SHAW.