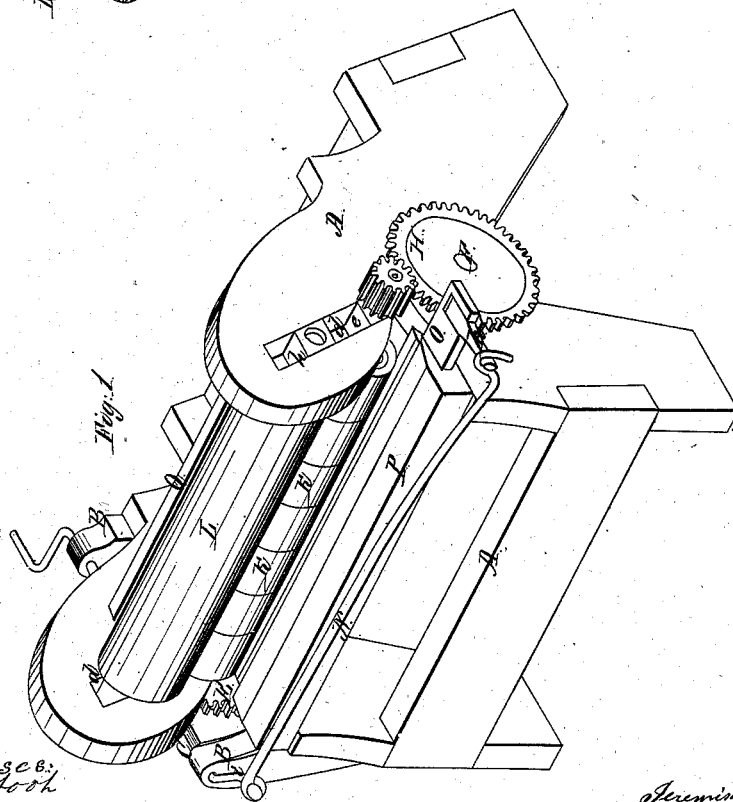
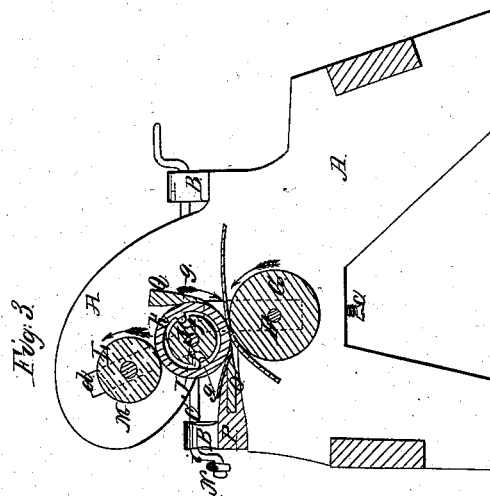
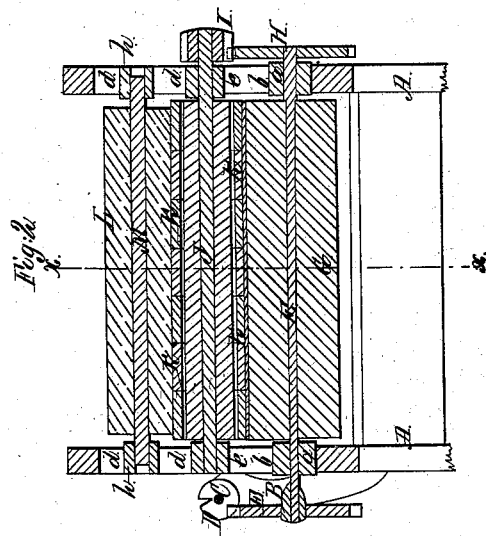


J. A. Marden,
Splitting Leather,

N^o 54,571.

Patented May 8, 1866.



Witnesses:
G. S. Proctor
Attest: P. M.

Inventor
J. A. Marden

UNITED STATES PATENT OFFICE.

JEREMIAH A. MARDEN, OF NEWBURYPORT, MASSACHUSETTS.

IMPROVEMENT IN LEATHER-SPLITTING MACHINES.

Specification forming part of Letters Patent No. 54,571, dated May 8, 1866.

To all whom it may concern:

Be it known that I, JEREMIAH A. MARDEN, of Newburyport, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Splitting Leather, Hides, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a leather-splitting machine having my improvements applied thereto. Fig. 2 is a longitudinal section through the center of the cylinder and rolls by which the leather is fed to the knife. Fig. 3 is a transverse section on the line *x x* of Fig. 2.

In machines for splitting leather as heretofore constructed it has been extremely difficult to cut the "grain" of a uniform thickness throughout, because of the imperfections and inequalities in the thickness of the leather, which caused it to "bag" or "cockle up" while being fed to the knife. It has been ascertained, however, that by feeding both surfaces instead of only one surface of the leather, the splitting operation may be performed with far greater perfection.

My invention relates to an improved method by which this desired end may be accomplished; and consists in a shaft surrounded by a series of separate and independent sectional rolls, each of which is provided with one or more teeth fitting into one or more grooves formed in the shaft, or vice versa, the rolls being driven by the shaft, the diameter of which is less than that of the inside of the rolls, to allow them to yield vertically and conform to the varying thickness of the leather while passing thereunder; and my invention also consists in a guide for preventing the rolls from being drawn back from the edge of the knife when the leather is held by the operator to prevent its bagging up.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the frame-work, in suitable bearings B, in which revolves the driving-shaft C, provided with a worm-gear,

D, which engages with a toothed wheel, E, on one extremity of the shaft F of the gage-cylinder G. The opposite extremity of the shaft F carries a toothed wheel, H, which drives a pinion, I, secured to the shaft J. The extremities of the shaft F rest in boxes *a*, which are raised and lowered within slots *b* of the frame-work by operating the set-screws *c*, Fig. 3, whereby the thickness of the cut is regulated.

In each side of the upper part of the frame is formed an open slot, *d*, for the reception of the boxes *e*, in which revolves the shaft J, which is provided with longitudinal grooves *f*, Fig. 3.

Around the shaft J are placed separate and independent rolls K, provided with teeth or projections *g*, which fit loosely into the grooves *f*, Fig. 3, so that when the shaft is revolved, carrying with it the rolls, they are allowed to move up and down independently of the shaft to conform to the inequalities in the thickness of the leather passing thereunder.

If preferred, each roll may be provided with a single tooth or projection, in which case the shaft will contain but a single groove.

L is a rubber roll resting upon the sectional rolls K, by which it is moved up and down, the shaft M of the roll L having its bearings in boxes *h*, which rise and fall in the slot *d* to admit of this movement.

To a crank, *i*, at one extremity of the driving-shaft C, is pivoted one end of a connecting-rod, N, the opposite end of which is hooked over an arm, *k*, projecting from the knife O, which is inclosed within a guide-bar, P, and it is by this arrangement that the knife is vibrated longitudinally across the gage-cylinder G while cutting the leather.

Q is a longitudinal bar which serves as a guide to prevent the sectional rolls K from being drawn back from the edge of the knife when it is necessary to draw back the leather while being fed thereto.

The surface of the cylinder C being adjusted to the proper height for cutting the grain of the required thickness, and the machine being set in motion, the side of leather is laid by the operator upon the cylinder G and guided between it and the sectional rolls K, which (by means of their connections with the shaft J before explained) assist in feeding the leather

forward, and rise and fall to conform to the imperfections and varying thickness thereof, whereby the leather is prevented from bagging or cockling up, and it is fed forward to the knife in such a manner as to insure at all times a smooth cut of uniform thickness throughout.

Instead of the shaft being provided with grooves, as above described, each roll may contain grooves and the shaft be provided with teeth or projections.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The shaft J, in combination with the sectional rolls K, the shaft driving the rolls by means of teeth and one or more grooves, substantially as described.

2. The guide Q, substantially as and for the purpose set forth.

JEREMIAH A. MARDEN.

Witnesses:

H. T. CROFOOT,
NATHE PIERCE.