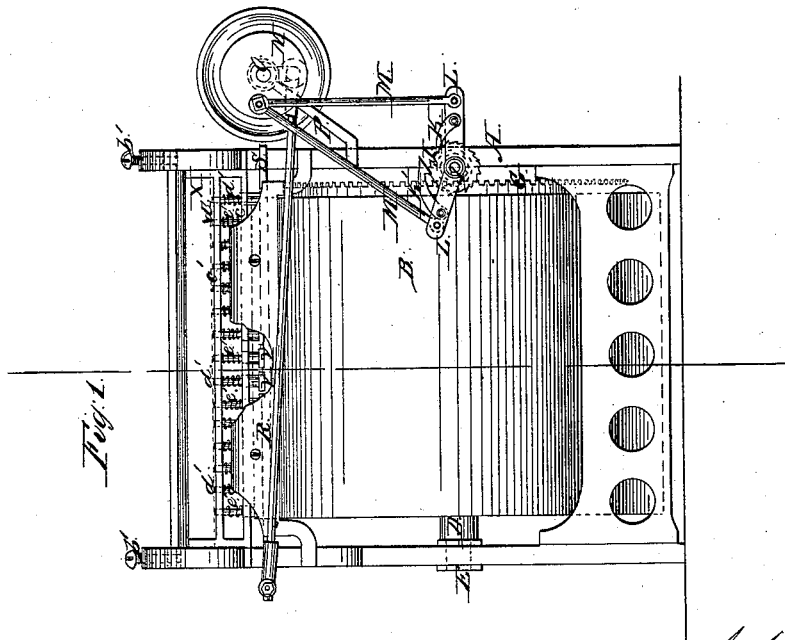
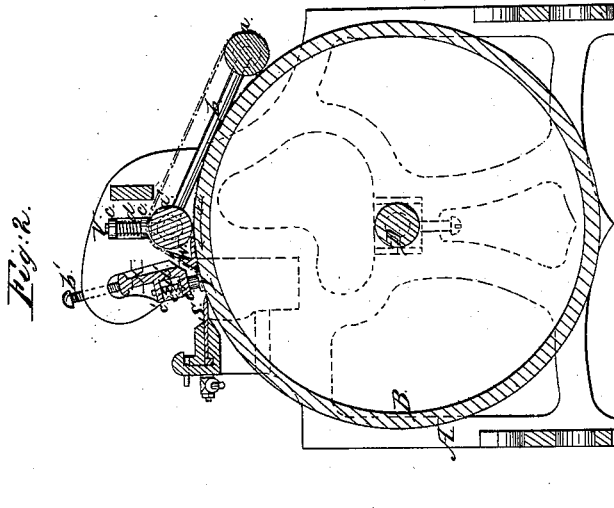


*J. A. Marden,  
Splitting Leather.*

*N<sup>o</sup> 53721.*

*Patented Apr. 3, 1866.*



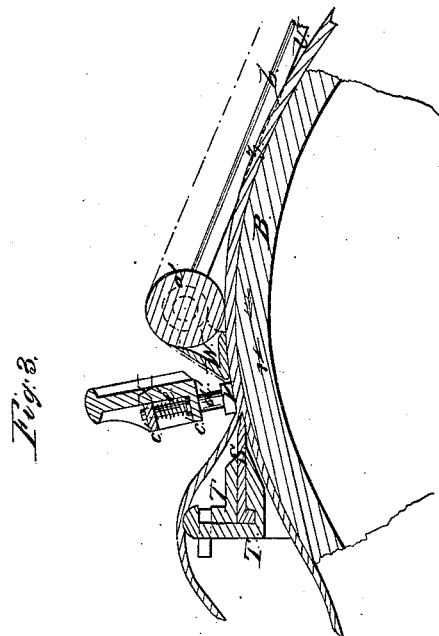
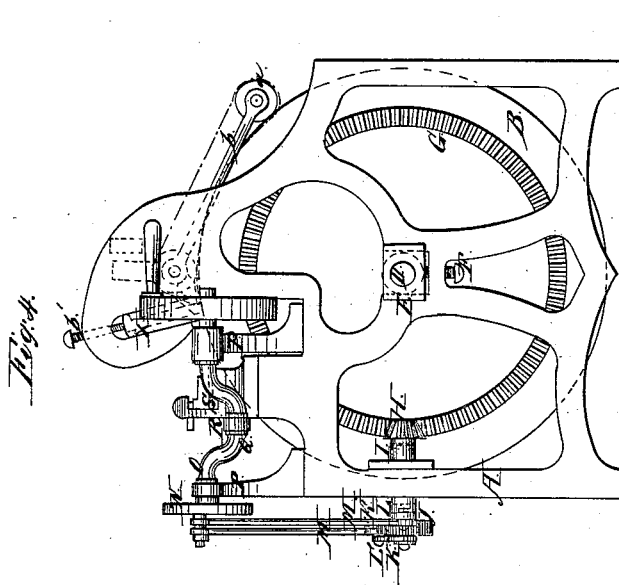
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*N<sup>o</sup> 53,741.*

*Patented Apr. 3, 1866.*



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# UNITED STATES PATENT OFFICE.

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## IMPROVED LEATHER-SPLITTING MACHINE.

Specification forming part of Letters Patent No. 53,741, dated April 3, 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 a new and Improved Machine for Splitting Leather; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is an end view of my invention in elevation; Fig. 2, a side sectional view of the same, taken in the line *xx*, Fig. 1; Fig. 3, Sheet No. 2, an enlarged side sectional view of a portion of the same, taken in the same line as Fig. 2; Fig. 4, a side elevation of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved device for splitting leather; and it consists in the employment or use of an adjustable revolving cylinder in connection with a reciprocating knife, pressure-shoes, and a pressure-belt, as hereinafter fully shown and described, whereby leather may be split in a very even and perfect manner and directly through the center or more or less out of the center, as may be required.

A represents a framing, which may be constructed in any proper manner to support the working parts; and B is a cylinder, which is fitted horizontally in said framing, and has the journals of its shaft D fitted in bearings, E E, which are adjusted in the framing A, in such a manner as to be capable of being raised and lowered by set-screws F, as shown clearly in Fig. 4. This cylinder B has a toothed rim, G, attached concentrically to one end of it, and into this rim G a pinion, H, gears, the latter being on a shaft, I, the bearings of which are in the framing A. The shaft I has a ratchet, J, upon it, into which the pawls K K' catch or work, said pawls being attached to two levers, L L', which are placed loosely on the shaft I and project from it in opposite directions, as shown clearly in Fig. 1. The outer ends of these levers L L' are connected by rods M to a pulley, N, on a shaft, O, the bearings P P of which are attached to the framing A, and the rods M are attached to the pulley N near

its edge, so that said pulley will operate as a crank and actuate the levers L L', and consequently the pawls K K', which, owing to the position of the levers L L' on the shaft I, will act alternately upon the ratchet J, the pawl K being a pushing-pawl and K' a pulling-pawl, and impart a continuous motion to the ratchet and cause the cylinder B to be rotated with a continuous motion. The shaft O is formed with a crank, Q, which has a pitman or connecting-rod, R, attached to it. This pitman or connecting-rod is secured to one end of a knife, S, which works between guides T T. The knife S has nearly a tangential position relatively with the cylinder B, as shown in Figs. 2 and 3, and said knife has a reciprocating motion given to it by means of the crank Q and pitman or connecting-rod.

U represents an endless apron, which works around rollers *a a'*, the former, *a*, being fitted between arms *b b*, the front ends of which are placed loosely on the shaft of the roller *a'*. The shaft of the roller *a'* has its bearings in rods, V V, which are fitted vertically in guides *c c*, attached to the framing A, said rods having spiral springs *d* upon them, which have a tendency to press said roller down upon cylinder B. (See Fig. 2.)

W is a bar the ends of which are attached to the rods V V. This bar is of V form in its transverse section, and it is placed directly in front of the roller *a'*, and has the same downward pressure exerted upon it as the roller *a'*.

X is a bar, which is secured in the framing A directly over the cylinder B, and in such a manner that it may be adjusted higher or lower by screws *b' b'*. This bar X is provided at one side with two lateral projecting ledges, *c' c'*, in which a series of vertical rods, *d'*, are placed, side by side, said rods having spiral springs *e'* upon them, which have a tendency to keep said rods *d'* pressed down toward the cylinder. The rods *d'* have shoes Y attached to their lower ends, and these shoes are pressed upon the leather Z by the action of the springs.

The operation is as follows: The cylinder B is rotated in the direction indicated by the arrow 1 through the means previously explained, the driving power being applied to the shaft O. The piece of leather Z is placed upon the cylinder B underneath the apron U and underneath pressure-bar W and shoes Y, which keep

the leather pressed down upon the cylinder. The knife S cuts the leather, leaving the strip or portion on the cylinder B of an equal or uniform thickness throughout. If there is any inequality in the thickness of the leather, it will be on the upper strip or portion cut off, for the leather being snugly pressed down on the cylinder and the knife retained firmly in position, it follows as a matter of course that the under strip must be uniform in thickness, the shoes Y and bar X being allowed to yield or give to the inequalities of the upper part of the leather. By adjusting the shaft D higher or lower the leather may be cut directly through the center or more or less at one side of the same. The endless apron and its rollers have a tendency to keep the leather in proper position on cylinder B, while the bar W and shoes Y keep the leather in a proper relative position with the knife. The shoes Y extend the whole length of cylinder B, and they are all independent one of the other, so that small inequalities of the leather will not cause the latter to be imperfectly pressed down upon the cylinder at any point.

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

1. The rotating cylinder B, in connection with the reciprocating knife S, arranged relatively with each other to operate in the manner substantially as and for the purpose set forth.

2. The pressure-shoes Y, in combination with the rotating cylinder B and reciprocating knife S.

3. The endless apron U, in connection with the pressure-bar W, shoes Y, cylinder B, and knife S, substantially as and for the purpose specified.

4. The placing of the cylinder B in adjustable bearings, substantially as shown, when said cylinder is used in connection with the reciprocating knife, endless apron, pressure-shoes, and pressure-bar, substantially as and for the purpose set forth.

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