

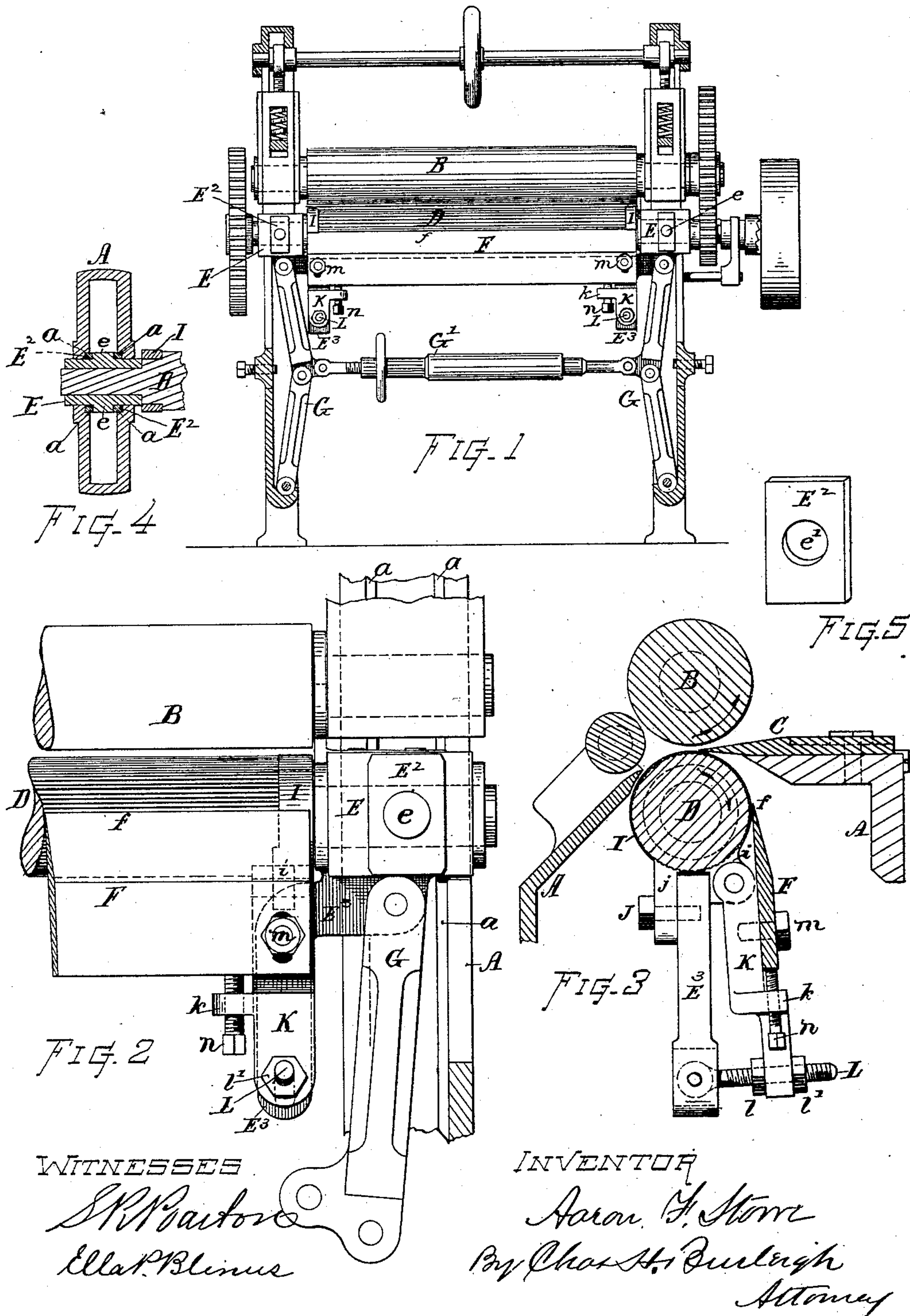
(No Model.)

A. F. STOWE.

LEATHER SPLITTING MACHINE.

No. 353,235.

Patented Nov. 23, 1886.



UNITED STATES PATENT OFFICE.

AARON F. STOWE, OF WORCESTER, MASSACHUSETTS.

LEATHER-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,235, dated November 23, 1886.

Application filed August 25, 1886. Serial No. 211,794. (No model.)

To all whom it may concern:

Be it known that I, AARON F. STOWE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Leather-Splitting Machines, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide, in a leather-splitting machine, means for trimming off or removing from the surface of the fluted feed-roll any adhering stock or substance that would be liable to pass around with the roll and interfere with the proper action of the machine; also, to provide a clearing-blade to work in conjunction with the surface of the presser or feed roll for trimming off adhering stock, and supporting devices therefor that will confine and maintain said blade in proper relation to the roll-surface at all times, regardless of the springing action or movement of the roll to and from the gage-roll and splitting-knife to accommodate different thicknesses and irregularities of stock; also, to provide, in combination with the feed-roll of a splitting-machine, a clearing blade or trimmer with blade-supporting devices having facilities for the adjustment of said blade to or from the roll-surface; also, to provide, in connection with the feed-roll in a splitting-machine, a cutter or clearing mechanism having facilities for the adjustment of the blade-supporting brackets, or to vary the angularity of the clearing-blade in relation to the plane of the splitting-knife or rolls.

Another object of my invention is to provide means for the more accurate and desirable support and guidance of the presser-roll journal-boxes in the supporting-frame.

These objects I attain by mechanism the nature and operation of which is illustrated in the drawings and explained in the following description, the subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a vertical sectional view of a leather-splitting machine illustrating my invention. Fig. 2 is a sectional rear view showing one end of the rolls, clearing-blade, journal-box, and blade-adjusting

devices drawn to larger scale. Fig. 3 is a vertical cross-section, showing the arrangement of the clearing-blade, feed-rolls, and splitting-knife. Fig. 4 is a horizontal section through the end of the feed-roll, journal-box, and frame; and Fig. 5 is a perspective view of the trunnion-slide for the rocking boxes.

In referring to parts, A denotes the main supporting-frame.

B indicates the gage-roll, constructed, mounted, and provided with adjusting and operating mechanism in the usual well-known manner, or substantially as heretofore employed by me.

C indicates the splitting-knife, and D the fluted presser or yielding feed-roll. The roll D is supported in movable journal-boxes E, that work up and down in guideways on the main frame, and which are maintained for pressing the roll D upward against the gage-roll B by means of knuckle-joint levers G, and an adjustable spring mechanism, G', substantially such as described in my former Letters Patent, No. 346,389, to which reference may be had for a more full understanding of these pressure devices. The boxes E are provided at their sides with trunnions e, whereby the box is retained in proper relation to the frame, while it is allowed to rock.

In my present improvement the guideway in the frame is made somewhat wider than the trunnions e, and is planed out so as to leave a small angle or shoulder, as at a a, extending up and down the guideway. The trunnions are turned off round, and are located centrally upon the sides of the box, and an oblong slide-plate, E², having a circular opening, e', is placed upon each of the trunnions and fitted into the shoulder or angle grooves a a, to take the bearing and wear of the moving parts. This particular and improved construction of the trunnion-slide and its guideway is a feature of my present invention. The slide-plate E², between the trunnion and frame, gives greater accuracy in action, and is more durable than where the trunnion-surface rests against the guiding-surface of the frame.

F indicates an auxiliary cutting or clearing blade disposed at the back of the feed-roll D, and supported at its ends in connection with the journal-box E, or by an annular bearing

that works upon and maintains its position in concentric relation with the axis of the roll, so that the cutter-blade and roll will remain at the same adjustment relatively to each other, regardless of the upward and downward motion of the boxes. The clearing-blade F is preferably disposed with its edge *f* close to the surface of the roll D at about one-quarter part (more or less) of the circle back from the position of the splitting-knife, and said clearing-blade acts to shave off or remove any stock or substance that adheres to the surface of the roll D, so that pieces of leather cannot wind onto said roll or pass around and be caught beneath the stock which is being fed into the machine. The clearing-blade could, if desired, be located below or in front of the roll D, for performing in equivalent manner the operation of clearing the face of the roll; but I prefer the construction specified.

The present illustrated manner of connecting the blade with the roll end and journal-box is as follows, viz: An inwardly and downwardly extending tongue, *E*³, is formed on or rigidly fixed to the box E, and a ring-piece or annular bearer, I, is arranged on the neck of the roll D adjacent to the journals. Said rings are furnished with lugs or projecting parts, as *i* and *j*, one of which lugs is confined to the tongue *E*³ by a screw or bolt, J, that passes through an opening in the lug *j* and screws into the tongue, while the other projection, *i*, serves as a hinge or pivoting-ear for the blade-supporting arm or bracket K, arranged as shown. Said brackets are provided with seating-surfaces, to which the clearing-blade is secured by bolts *m*, and with side projections, *k*, in which are arranged set-screws *n*, that turn up against the back or lower edge of the blade, while the lower end of said bracket is confined by means of adjusting-nuts *l* *l'* upon a bolt, L, the head of which is pivoted or connected with the lower part of the tongue. (See Fig. 3.) The parts being thus arranged, the lower end of the bracket K can be adjusted and set at a greater or less outward degree from the tongue *E*³, so as to vary the angle of the blade in relation to the vertical, or plane of the rolls B D and splitting-knife C, while the blade can be moved up or down by the set-screws *n*, thus giving to its cutting-edge *f* a very accurate adjustment in relation to the surface of the roll D.

The rings I are made of slightly larger diameter than the fluted portion of the roll, and serve as gages at the ends of the roll against which the edge of the blade strikes, and thus avoids the liability of setting the cutting-edge of the blade against the fluted surface of the roll, this difference of diameter being just sufficient to allow the edge of the blade to barely clear the roll-surface. As the ends of the blade are attached to bearers I, that are mounted upon the roll-necks and concentric with the axis of the roll, the blade follows the movement of the roll in its springing action to accommodate variation in thickness of

stock, but maintains its accuracy of adjustment upon the roll-surface, so that its successful working is at all times insured.

The cutter-supporting bracket K can, if desired, be pivoted upon or attached to the journal-box E, the end of said box being extended or made to take the place of the ring-bearing I, the action being equivalent, so far as the support and maintenance of the cutting-blade are concerned. I prefer, however, to employ the ring or bearing I, as shown, owing to its practical facility of construction and as it avoids annoyance in putting the machine together, and also is not subject to strain or derangement by the roll taking angular position in the frame when uneven stock is run through the machine.

In the operation of the machine the sharpened edge *f* of the auxiliary blade shears off or removes any stock that may adhere to the surface or flutings of the roll D, the blade cutting off such portions as will not become forced from the flutings in advance of the blade, so that the roll presents an even or unobstructed surface when it meets the stock which is passing into the machine between the rolls B and D.

I am aware that scrapers have heretofore been used for clearing the surface of a presser or feed roll, and I do not therefore wish to be understood as herein claiming a scraper for such purpose, broadly.

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

1. In a leather-splitting machine, the combination, with the feeding-rolls and splitting-knife, of an auxiliary blade the edge of which is disposed in conjunction with the surface of the fluted presser-roll, supported on bearings that embrace the ends of said fluted roll or the roll-journals, whereby the relative adjustment of the blade to the roll-surface is maintained regardless of the movement of the presser-roll in relation to the gage-roll and splitting-knife, substantially as and for the purpose set forth.

2. The combination, with the rolls B and D and splitting-blade C, of a clearing-blade having its edge disposed adjacent to the fluted surface of the feed-roll D, and a support for said blade suspended from bearings mounted upon or coincident with the axis of said feed-roll, substantially for the purpose set forth.

3. The combination, with the feed-rolls and splitting-blade in a leather-splitting machine, of an auxiliary cutting or clearing blade, F, an adjustable blade-supporting bracket suspended from a bearing or ring surrounding and concentric with the roll-axis, and adjusting devices for regulating the position of said clearing-blade in relation to the roll-surface, substantially as set forth.

4. The combination of the roll D, the bearing-box E, having a tongue or projection, as *E*³, the hinged bracket or arm K, the clearing-blade F, secured to said bracket, and the adjusting-screw L, having set nuts *l* *l'*, substantially as and for the purpose set forth.

5. The collars or bearing-rings I, having lugs *i*, the brackets K, hinged thereto, the clearing-blade F, attached to said brackets, with the clamping and adjusting screws *m* and *n*, in combination with the roll D and journal-bearings, substantially as and for the purposes set forth.

6. In a leather-splitting machine, the combination, with the roll D and adjustable clearing-blade F, of collars or supporting-rings, as I, of slightly greater diameter than the roll, substantially as and for the purpose set forth.

7. The combination, substantially as described, of the gage-roll B, splitting-knife C, feed-roll D, journal-boxes E, spring-actuated knuckle-joint arms G, clearing-blade F, adjustable supporting-brackets K, bearing-rings

I, and adjusting-screws L, *n*, and *m*, for the purposes set forth.

8. The combination, with the presser or feed roll D and frame A in a leather-splitting machine, of the journal-box E, provided with trunnions *e*, and the slide-plates E², having an opening fitting over said trunnions and their outer edges fitting to and embraced by angular grooves *a* in the guiding-way of the frame, substantially as shown and described.

Witness my hand this 20th day of August, A. D. 1886.

AARON F. STOWE.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.