(No Model.) 2 Sheets—Sheet 1.

# E. CUMMINGS.

## LEATHER SPLITTING MACHINE.

No. 332,385. Patented Dec. 15, 1885.

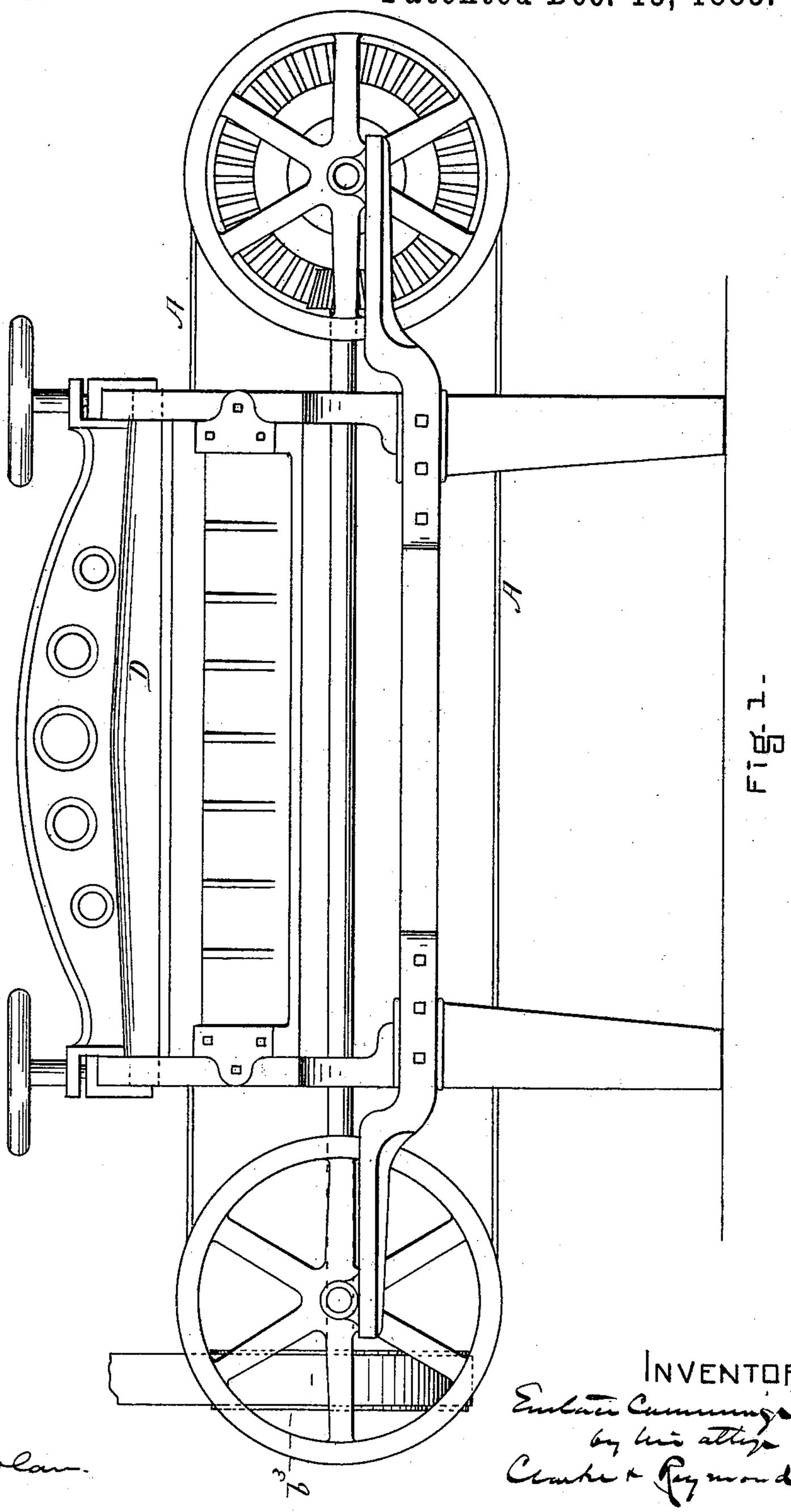


Fig. 1.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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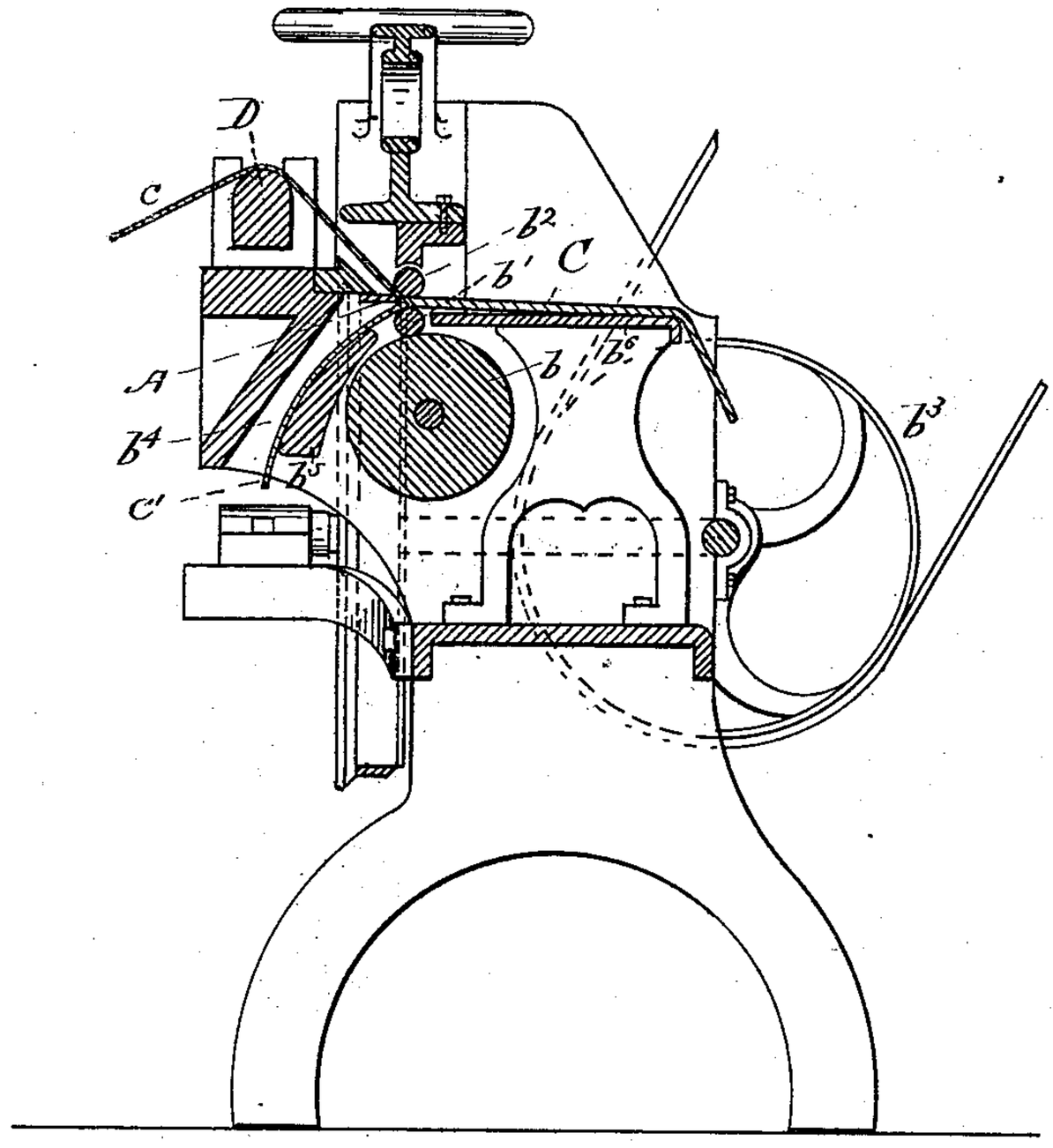


Fig. 2.

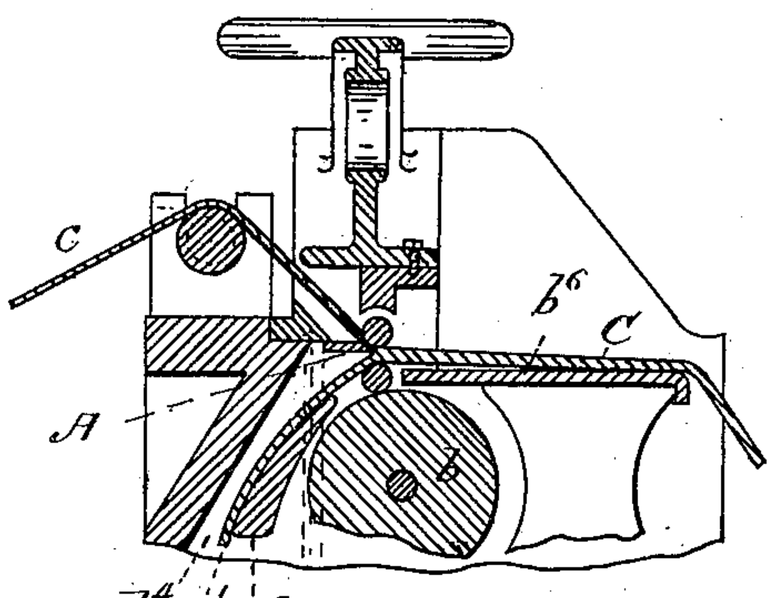


Fig. 3.

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# UNITED STATES PATENT OFFICE.

EUSTACE CUMMINGS, OF WOBURN, MASSACHUSETTS.

## LEATHER-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 332,385, dated December 15, 1885.

Application filed May 1, 1885. Serial No. 164,131. (No model.)

*To all whom it may concern:*

Be it known that I, EUSTACE CUMMINGS, of Woburn, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Leather-Splitting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention is an improvement upon that described in my Patent No. 288,551, dated November 30, 1883. In said patent I have described as an attachment to the leather-splitting machine known in the market as the "Barton machine," a drawing device or mechanism for producing upon the side of leather being split a tension, the tension or action being upon the upper split section or "grain" of the side, and this tension or drawing action overcame the uneven or irregular splitting of this class of machine, caused by pushing the hide to the band-knife, instead of drawing it from behind and upon it. The device described in said patent for accomplishing this drawing of the side of the leather or tension thereon comprises two positively-actuated drawing-rolls arranged back of the band-knife and on a line above it; and this invention describes a modified form of construction, whereby the same results are obtained. Instead of using two positively-revolved drawing-rolls, I use what may be termed a "drawing" or "straining" roll or bar—that is, a rounded support over which the upper section of the side of leather being split is drawn by hand, instead of by a positively-operated drawing-roll.

Referring to the drawings, Figure 1 represents in end rear elevation the leather-splitting machine known as the "Barton," provided with my drawing or straining roll or bar. Fig. 2 is a vertical central section thereof, representing the use of a straining-bar. Fig. 3 is a vertical central section showing the use of a drawing or straining roll.

The machine, with the exception of the roll or bar hereinafter described, is the well-known Barton machine of the market, and it will be unnecessary to further describe this construction and its operation herein, it being sufficient to say that A is a revolving belt-knife; $b$ $b'$ $b^2$, the feed-rolls, of which the roll $b$ is a rubber-covered roll of much larger diameter than the rolls $b'$ $b^2$ and revolves the roll $b'$, which is made sectional, and the leather is fed between this sectional roll and the gage-roll $b^2$ to the knife. $b^3$ is the driven pulley. $b^4$ is the passage through which the "split" leaves the machine. $b^5$ is a rounded surface or support over which it passes. $b^6$ is the front bed or table of the machine. C is the side of leather before splitting. $c$ is the grain, and $c'$ the split.

In the Barton machine, as commonly used, the side of leather is presented to the splitting-knife over the bed $b^6$, and is pushed forward by the feed-rolls upon the knife, so that the feed of the leather was from the front and by a pushing action, and this pushing action caused the leather to fold in front of the cutting-edge of the knife. If, however, the side of leather is drawn upon the band-knife, and is not pushed or crowded upon its cutting-edge, then the side will be presented to the knife in a substantially level and flat position, and the rolls $b'$ $b^2$ will properly hold and present the same, and act regularly and uniformly and in a manner in which they cannot act when the side is pushed hard against them for the purpose of feeding it to the knife.

The devices shown in my said patent for drawing the side to the splitting-knife work very well, and the modification herein described will work nearly if not quite as well. It comprises a rounded or curved support, D, which is a substitute of the positively-driven roll C of the said patent, and is used substantially in the same manner that said roll is employed, with the exception that the leather is drawn over the same by hand, instead of by the revolution of the roll. This rounded surface or support may be in the form of a roll, as shown in Fig. 3, the roll being free to revolve in its bearing, and covered or not with rubber or other like material, as desired; or it may be a bar fastened to the cross-piece occupying substantially the place of the roll and having a curved surface over which the leather is drawn by hand. It is desirable that the support shall be shaped substantially as shown in Fig. 1—that is, higher at the center and to incline from the center to each end—and of course the roll may be so shaped, if desired.

This form is preferable, because the center portion of the side of leather which travels faster must be a little fuller, and by forming the support as described the side can be drawn more uniformly and with less trouble, because of the fullness at the center.

In operation the section *c* of the side is passed over the bearing or support D, and is seized by the operator, who bears down upon the same, thereby causing the section to be strained upon the bar or support and providing a tension or drawing action upon the section of the side which is passing over the straining bar or support, causing the same to hug the support and to become smooth, and exerting a straining or drawing action upon the side while it is being presented to the band-knife.

It is obvious that drawing the leather over the straining bar or support by hand, even if the leather is taken hold of at but one point, exerts a tension or drawing action upon the leather throughout almost the entire width of the side, because the tension on account of the straining-bar, and because of its shape, spreads laterally after it passes the edge of the bar from the point where the drawing action or strain is applied.

In my said Patent No. 288,551 the drawing-rolls shown and described are positively operated, and although I have in said patent described a modified form of construction in employing one drawing-roll only, yet as said roll is positively operated I consider that said construction does not fully anticipate or cover a roll which is not positively operated, such as is herein described.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a leather-splitting machine, in combination with the feed and gage rolls $b'$ $b^2$ and the belt-knife A, the rounded straining bar or support D, all substantially as and for the purposes described.

2. In a leather-splitting machine, in combination with the feed and gage rolls $b'$ $b^2$ and belt-knife A, the rounded straining or bearing support for the section *c* of the side having a surface inclined from its center toward both ends, all substantially as and for the purposes described.

EUSTACE CUMMINGS.

Witnesses:
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