(No Model.)

A. H. BRULARD.

CANE MILL.

No. 422,289. Patented Feb. 25, 1890.

Fig 1

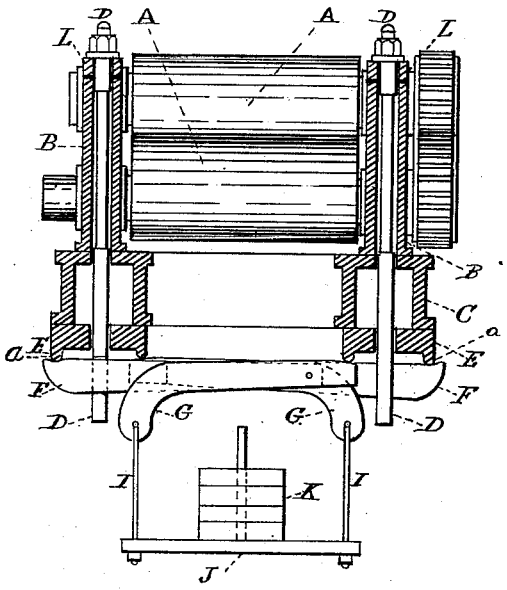


Fig 2

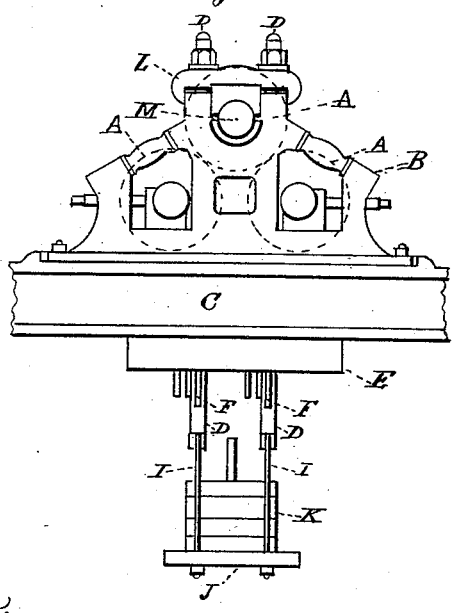


Fig 3

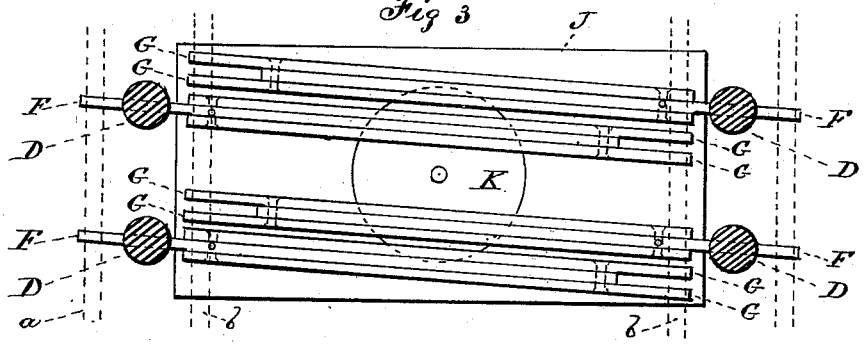
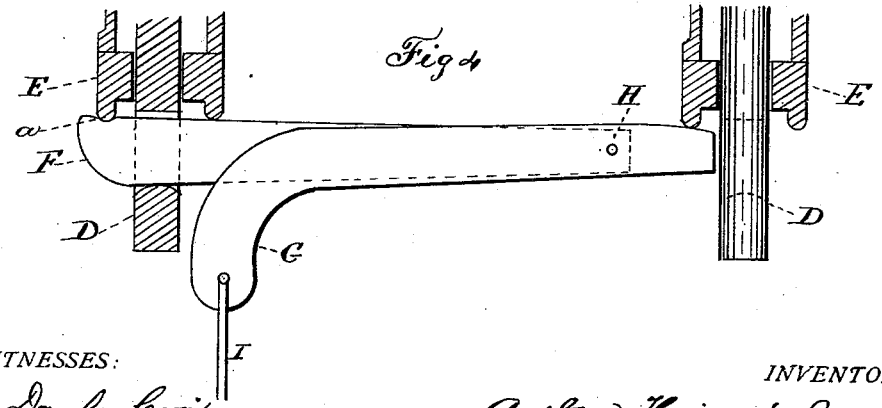


Fig 4



WITNESSES:

C. De la Croix

Sam B Robeson

INVENTOR

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by Frederic Cook

atty.

UNITED STATES PATENT OFFICE.

ARTHUR HONORÉ BRULARD, OF FORT ST. LEON, LOUISIANA.

CANE-MILL.

SPECIFICATION forming part of Letters Patent No. 422,289, dated February 25, 1890.

Application filed October 6, 1889. Serial No. 326,106. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR HONORÉ BRULARD, a citizen of the United States, residing at Fort St. Leon Plantation, English Turn P.O., in the parish of Plaquemines and State of Louisiana, have invented certain new and useful Improvements in Cane-Mills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to sugar or cane mills, and has for its object to provide a new and improved regulator for equalizing the pressure on the cane as it passes between the mill-rollers.

The invention also has for its object to provide novel means for preventing breakage in the mill from overfeeding or from hard foreign substances that may be fed with the cane.

To accomplish these objects my invention involves the novel construction of parts, the combination or arrangement of devices, and principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a transverse vertical section of a portion of a sugar-mill, showing my invention applied thereto. Fig. 2 is an end view of the same. Fig. 3 is a detail bottom plan view of th epressure-regulating device, showing the king-bolts in section and the mill-frame in dotted lines; and Fig. 4 is a detail section on a larger scale.

Referring to the drawings, the letters A indicate the rollers of a sugar-cane mill; B, the mill-frame, comprising housings for king-bolts D and a bed-plate C, having on its under side the washers E, through which the king-bolts pass. The king-bolts connect at their upper ends with the caps L of the upper roller-shaft M, and at their lower ends these bolts are each provided with a slot receiving the end portion of a lever F, which at its outer end is fulcrumed at *a* on the washer E, and at its inner end is pivoted at H between a pair of levers G, which project beyond such pivot H and engage under or with the washer E. The opposite ends of the levers G connect with vertical rods I, supporting a weight-platform J, on which a weight K is supported, all in such manner that the weight presses downward the inner ends of the levers F through the medium of the levers G, and thereby draws down the king-bolts D, with the cap-plates L, which thus exert a powerful pressure on the journals of the upper roller-shaft M. This pressure can be varied and regulated by varying the weight on the platform J to suit the conditions required for obtaining uniform results and the best extraction of juice from the cane. This pressure is a constant one, and is the same on the cane whether the feed be small or large, for the downward strain on the top roller-shaft M, produced by the mechanism described, remains always uniform; but also the top roller accommodates itself to the feed passing through sufficiently to give a uniform extraction of juice, while a uniform pressure is exerted on the cane. By the giving way of the top roller the mill is also prevented breaking from any foreign matter—such as a piece of iron, stone, or wood, or other hard substance—getting into the rollers, which would otherwise cause a breakage when the king-bolts are rigidly screwed down.

My device can be applied to any kind of mill for pressing any other substance than sugar-cane.

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

1. In a cane-mill, the combination, with an upper and lower crushing-roll, of vertically-movable king-bolts having bearing upon the caps of the journals supporting the upper roll, levers fulcrumed at their ends upon the frame and engaging the lower ends of said king-bolts, and levers fulcrumed at their ends upon the frame of the mill and having pivotal connection with the power ends of the levers drawing upon the king-bolts, the latter levers being connected with weights, and the entire series of levers being arranged beneath the rolls, substantially as described.

2. In a cane-mill, the combination, with rolls A A, whereof the upper roll is movable toward and from the other, of king-bolts

drawing upon the journals of the movable roll, levers fulcrumed at their ends upon opposite sides of the washer arranged beneath the frame of the mill, said levers being arranged to pass each other and lie under the rolls, levers fulcrumed upon opposite sides of said washer and consisting of parallel bars inclosing and pivotally connected to the power ends of the first levers, and a weighted plate connected to the power ends of the pivotally-attached levers, substantially as described.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

ARTHUR HONORÉ BRULARD.

Witnesses:
FREDERIC COOK,
LOUIS BRULARD.