BROWN & GREENLEAF.

Sugar Mill.

No. 23,753. Patented April 26, 1859.

Fig. 2.

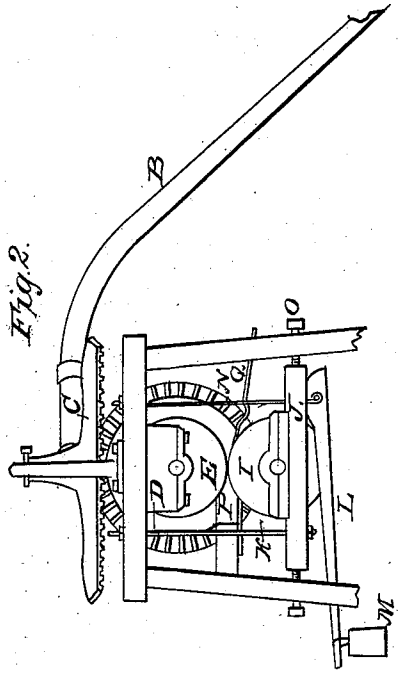


Fig. 3

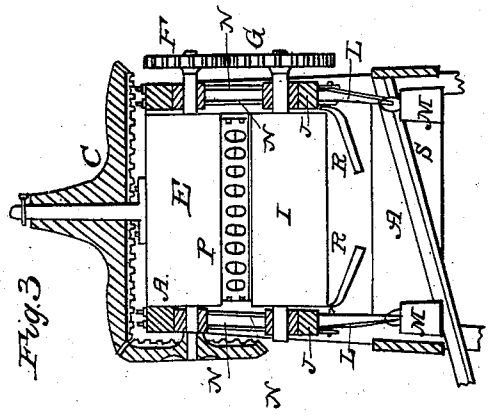
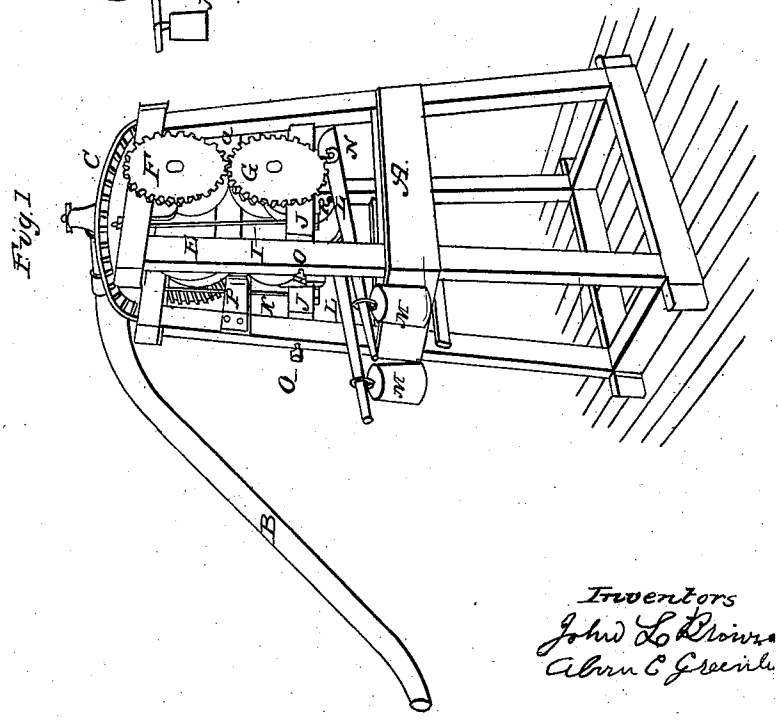


Fig. 1



Witnesses.
John A. Rudolph
Edmund Brownell

Inventors
John L. Brown
Abner C. Greenleaf

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UNITED STATES PATENT OFFICE.

JOHN L. BROWN AND A. C. GREENLEAF, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN SUGAR-MILLS.

Specification forming part of Letters Patent No. **23,753**, dated April 26, 1859.

To all whom it may concern:

Be it known that we, JOHN L. BROWN and ALVIN C. GREENLEAF, both of the city of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Sugar-Mills, of which the following is a full and exact description, reference being had to the accompanying drawings and the letters marked thereon.

Figure 1 is a perspective, and Figs. 2 and 3 are sectional, views showing the construction and operation of the mill.

A is the frame; B, a lever attached to the beveled wheel C, which gears with the wheel D, which is upon the same shaft with and operates the roller E and spur-wheel F, which gears with the wheel G, which operates the roller I, which is upon the same shaft. J and J are suspended bearings or beams, upon which the journals of the crushing-roller I rest.

K and K are rods, which support the bearers or beams J J. The levers L and L have eccentric bearings, and are designed to give a uniform pressure or crushing force to the roller I, as will be shown. The weights M M are designed to regulate the force of the levers L L. The rods N N pass down from the top of the frame (to which they are attached) through the beams or bearers J J, and support the fulcrums of the levers L L. The set-screws O O are designed to adjust the bearers or beams J J, thereby varying the axis of the roller I. The chute or hopper P, as the cane is passed through the same, small end or top first, strips off the leaves. We sometimes cover these openings with an elastic or variable slide, which rises or falls, adapting itself to the size of the stalk.

Q is a scraper and discharge-apron, upon which the crushed cane is passed out of the mill. R and R are conductors designed to convey the juice into the trough S.

The following is the operation of the mill: The cane, being fed into the same through the hopper P, passes between the rollers E and I, the machine being operated by the lever B, as shown. The roller I is adjusted by either tightening the rods K K N N or operating the set-screws O O. The eccentric-levers L L are so constructed as to retain about the same distance between the bearings and the fulcrums of the same, when their angles are varied, thus equalizing their pressure or giving uniformity to the pressure produced by the weights M M. By adjusting the weights M M, the required amount of pressure may be applied to the crushing-roller I. The effect of the eccentric-levers differs from that of the simple spring, in that while the force of the spring is varied according to the distance or extent of its operation, the levers may vary the force without destroying the uniformity of the pressure or force applied by them.

By operating the set-screws O O, the roller I may be adjusted to the roller E, although the ends of the same may be of unequal size. This is done by varying the axis of the roller I, as has been shown. This arrangement avoids the necessity of turning the rollers perfectly true.

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

The combination and arrangement of the rods K K N N, levers L L, and bearings J J with the set-screws O O, when constructed and operated substantially as and for the purposes set forth.

JOHN L. BROWN.
ALVIN C. GREENLEAF.

Witnesses:
JOHN H. REDSTONE,
EDWIN W. BROWNELL.