

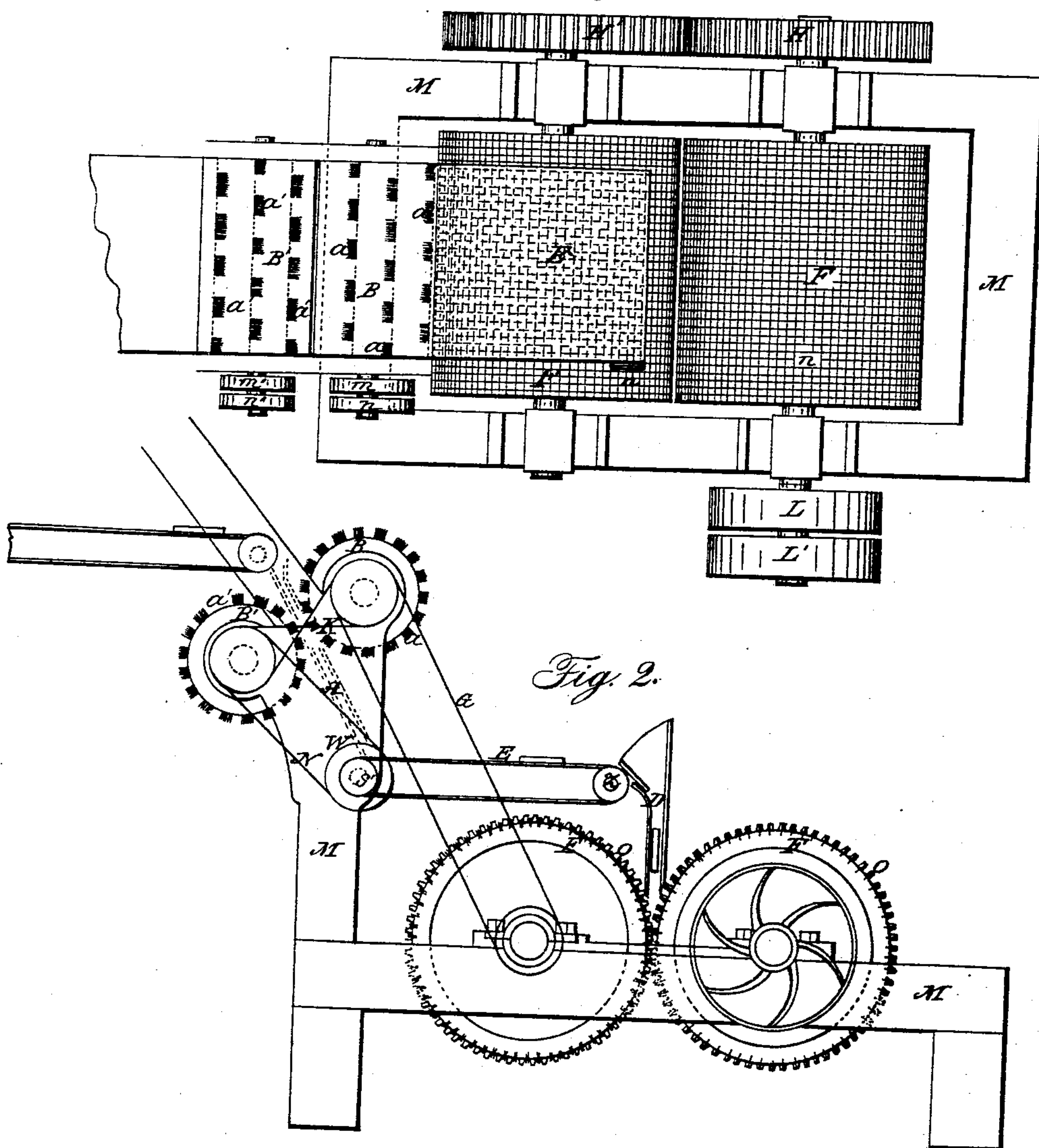
A. & F. BROWN.

Sugar Cutter.

No. 14,490.

Patented Mar. 25, 1856.

Fig. 1.



UNITED STATES PATENT OFFICE.

ADOLPH BROWN AND FELIX BROWN, OF NEW YORK, N. Y.

MACHINE FOR CUTTING LOAF-SUGAR.

Specification forming part of Letters Patent No. **14,490**, dated March 25, 1856.

To all whom it may concern:

Be it known that we, ADOLPH BROWN and FELIX BROWN, of New York, in the county and State of New York, have invented a new and useful Machine for Cutting up Refined Loaf-Sugar into Regular Pieces; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of our invention consists in cutting up refined sugar into regular and equal morsels in such a manner that the appearance of the crystals on the outside shall be as much as possible preserved. For that purpose we cut the loaf or lump sugar first into slices or slabs of the required thickness by means of straight or circular saws, then passing said slabs between rollers having brushes around their circumference for the purpose of cleaning off the dust produced by the process of sawing, thereby reproducing the appearance of the crystals on the outside, and, lastly, passing the such-cleaned slabs between rollers having steel knives around their circumferences, corresponding to each other and acting on both sides of the slabs simultaneously like pinchers, by which action said slabs are cut into cubical morsels of the required size.

In the accompanying drawings, Figure I represents a top view, and Fig. II a side view of the machine.

The sugar, after having first been cut in slabs of the required thickness by straight or circular saws or by any other similar contrivance, is put into the hopper A. In the sides of this hopper A openings are cut, covered with wire, so that the brushes *a a'*, fastened to the periphery of the drums B B', can reach into the hopper so as to clean the slabs of sugar, as they pass down the hopper, from the dust adhering to the same from the process of being cut into slabs. By this process of cleaning or brushing off the sawdust the crystals are reproduced on both sides of the slabs. The drums B B' run in bearings in the frame M, and are each provided with two pulleys, *m p* and *m' p'*, fast to their shafts, respectively. The slabs of sugar which have by the above-described process acquired again their crystal appearance on the sides fall upon the endless band E, running over the rollers S and Z, and are carried by the same into the second hopper, D, situated above and be-

tween the cutting-rollers F F', to be cut up into cubical pieces. These cutting-rollers F F' consist of drums made of wood or iron, running in bearings fastened to the frame M. In the circumference of these drums steel plates or knives *n* are let in parallel to each other and the same distance apart as the thickness of the slabs of sugar. These plates or knives *n* have recesses or notches corresponding with each other, into which the cross-knives *o* are fitted, running parallel to the axes of the drums and to each other, and forming, with the knives *n*, squares equal to the thickness of the slabs. These knives *o* are screwed to the drums, and hold thereby at the same time the other knives, *n*, in their places.

H H' are teeth-wheels fast on the shafts of the rollers F F', to connect both rollers together.

L L' are fast and loose pulleys on the shaft of the roller F, to apply power to the same.

M is the frame of the machine. Motion being given to the roller F, the same will be communicated through the gearing H and H' to the roller F', and through the band G, passing over the shaft of the drum F' and the pulley *p* to the drum B. The drums B and B' are connected together by the band K, passing over the pulleys *m* and *m'*, and the band N, passing over the pulley *p'*, and the pulley *w*, fast to the end of the roller S, communicates motion to the endless band E.

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

1. The application and use of two or more rollers having brushes around their circumferences and acting upon both sides of slabs of sugar, for the purpose of cleaning off the dust adhering to the same by the process of sawing, thereby reproducing the appearance of the crystals, as described.

2. The application of drums or rollers connected together by gearing, having steel knives inserted and attached around their circumferences, forming squares and corresponding to each other, and acting on both sides of sugar slabs simultaneously, like pinchers, for the purpose of cutting up said slabs into regular cubical morsels, in the manner specified.

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Witnesses:

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