

W. MOLLER.

Sugar Cutter.

No. 33,260.

Patented Sept. 10, 1861.

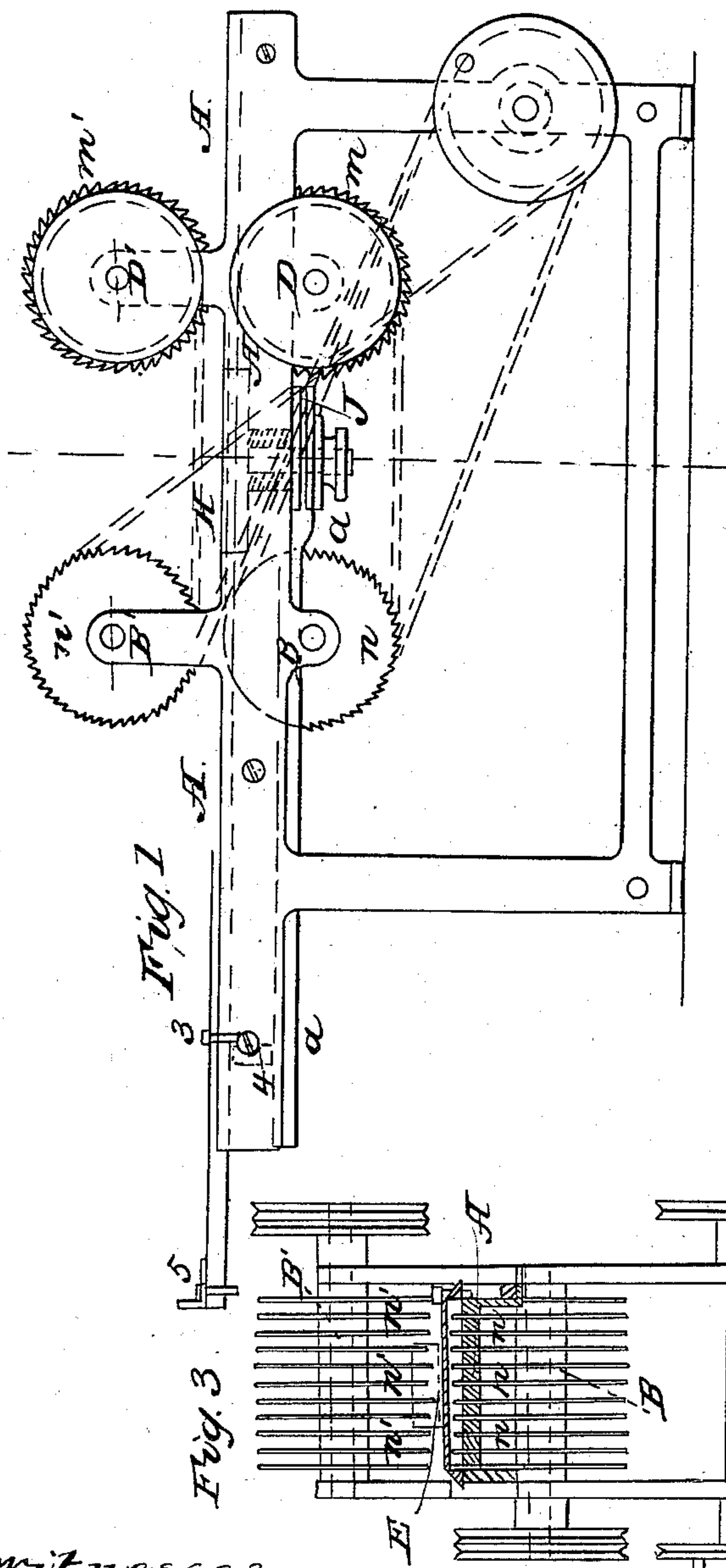
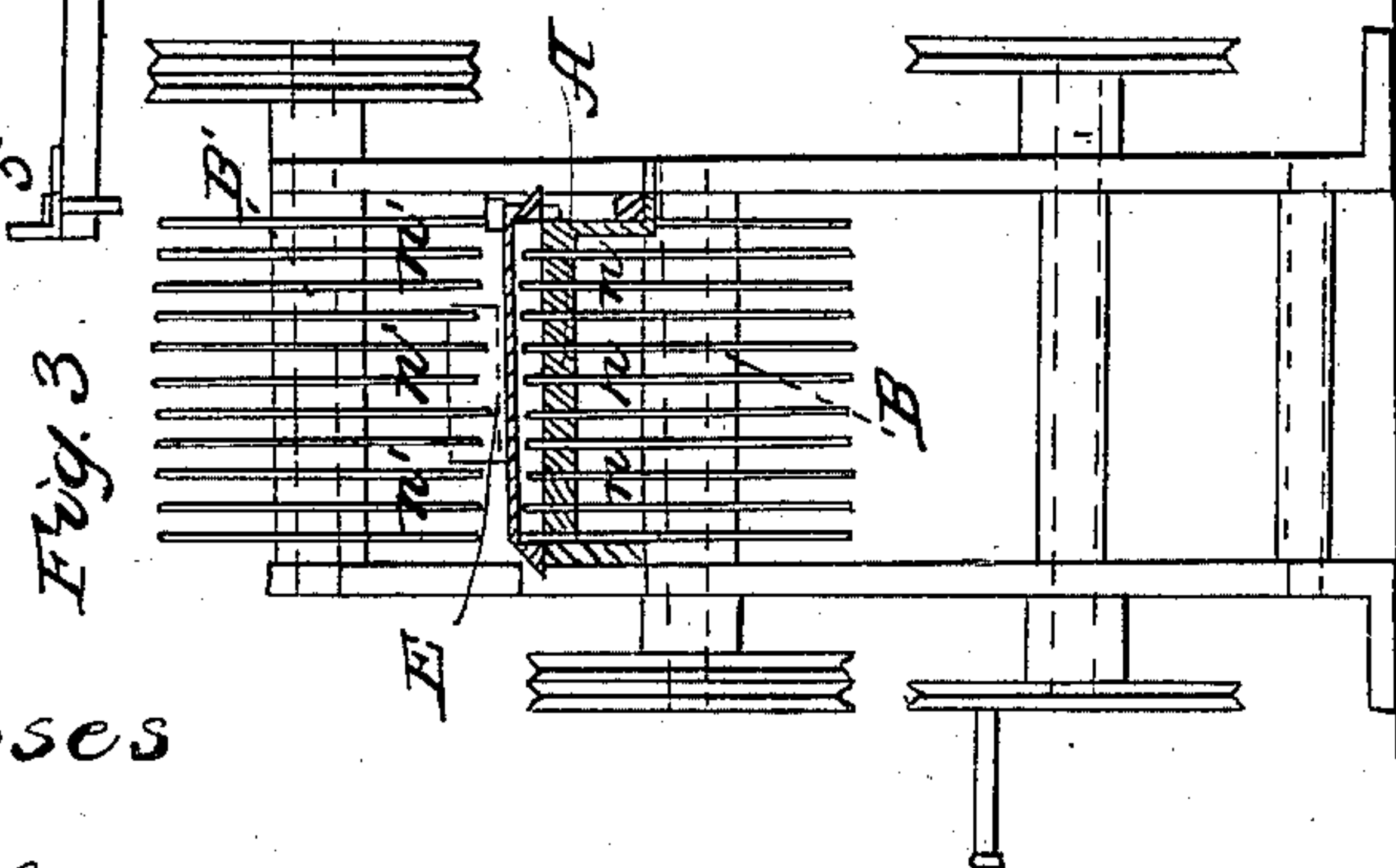
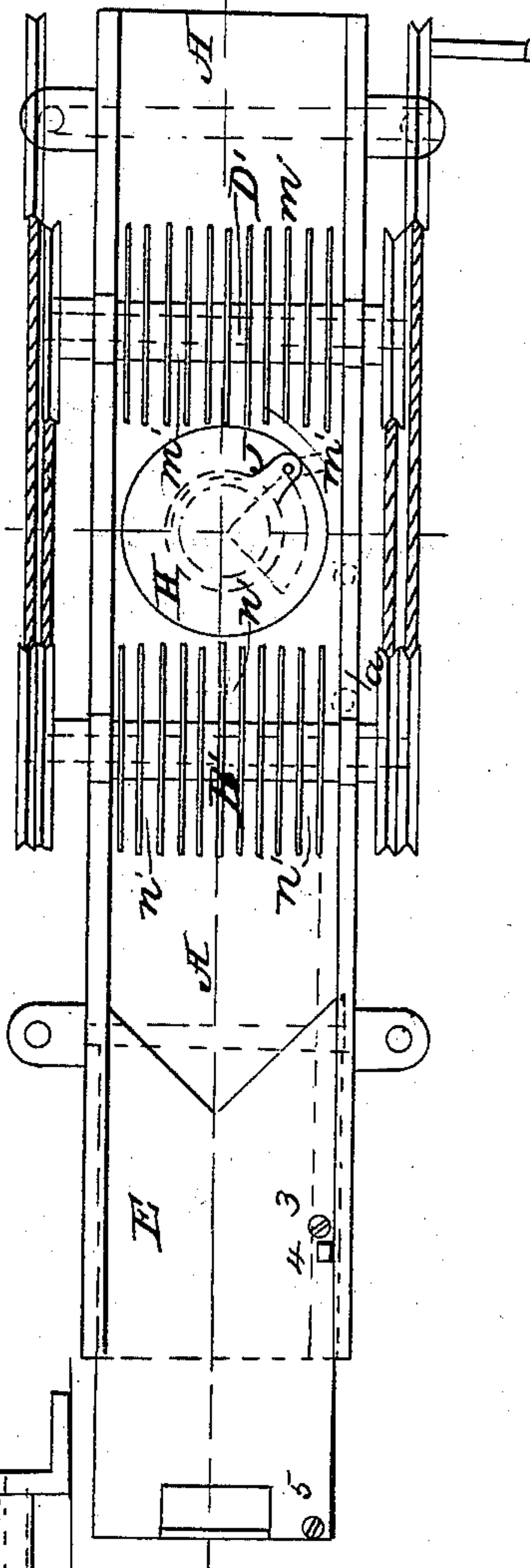


Fig. 2



Witnesses
J. W. Moore
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UNITED STATES PATENT OFFICE.

WILLIAM MOLLER, OF NEW YORK, N. Y.

IMPROVED SUGAR-CUTTING MACHINE.

Specification forming part of Letters Patent No. 33,260, dated September 10, 1861.

To all whom it may concern:

Be it known that I, WILLIAM MOLLER, of New York, in the county and State of New York, have invented a new and Improved Machine for Making Block Sugar; and I 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 therein.

Figure I represents a longitudinal elevation, Fig. II a top view, and Fig. III a cross-section, of my improved machine.

The nature of my invention consists in the arrangement of rollers provided with saws or cutters placed directly opposite each other, whereby the slabs of sugar receive parallel cuts on both sides simultaneously while passing through between said rollers; and, further, in the arrangement of a turning plate or table between two sets of rollers, constructed as above described, whereby the slabs of sugar, after having received the required cuts or grooves while passing through one set of rollers are turned one-quarter of a circle round, so as to receive the cuts by the second set of rollers at right angles to the first grooves, thereby cutting or grooving the slabs of sugar into regular square blocks.

To a table, A, supported by a suitable frame, rollers B B', running parallel with each other, are attached, one below and the other above said table. These rollers are provided with circular knives, cutters, or saws *n n*, and so arranged that the cutters or saws of the roller B shall be exactly opposite those of the roller B', and from five-eighths of an inch to one inch or more apart, according to the size of the blocks required to be cut. The cutters of the roller B pass through the table A and project about one-eighth of an inch above its surface, and the roller B' is so arranged that its distance from the roller B may easily be changed, so as to bring the ends of the cutters or saws of both rollers nearer together or farther apart, as may be required. Some distance from these rollers B B' two similar rollers, D D', provided with circular knives or saws *m m*, are arranged, constructed, and operating in the same manner as the rollers B B'. Between those two sets of rollers B B' and D D', a circular plate, H, is arranged in the table A, having its upper surface even with the top surface of said table, and capable of turning in a suitable

bearing around its center. To the center piece of this circular plate H a pawl-lever, J, is attached, whose other end is attached, by means of a link, to a rod, *a*, running in suitable guides at the under side of the table A, and operating in such a manner on this circular plate H as to turn the same always exactly one-quarter of a circle round. The upper surface of this circular plate H is provided with grooves or fine projections, so as to produce a rough surface to hold the slabs of sugar steady while being turned round with said plate. Projecting points or a spring may be arranged, so as to move down upon the top of the sugar slab before the plate H begins to turn, to hold the slab firm on said plate while turning, and which are afterward moved away again when the motion is completed, so as to leave the slab of sugar at liberty to be pushed forward.

E is a slide, working in suitable guides upon the table A, for the purpose of pushing the slabs of sugar between the rollers and knives or cutters. To this slide two pins, 3 and 5, are attached, which act upon a projection, 4, on the rod *a* for the purpose of communicating the required motion to said rod and to the pawl-lever J, whereby the circular plate H is turned one-quarter of a circle round.

The operation of the machine is as follows: A slab of sugar is placed upon the table A, and is then pushed, by means of the slide E, through the roller B and B', by which operation the circular knives or saws *n n* cut grooves into both sides of said slab simultaneously, parallel and exactly opposite to each other. This slab of sugar is then, by a further motion of the slide E, brought upon the circular plate H. The slide E is then moved back again ready to receive another slab of sugar. By this backward motion the pin 3 operates the rod *a* by coming in contact with the projection 4 on said rod, which operates the pawl-lever J, so as to turn the circular plate H, with the slab of sugar lying on the same, exactly one-quarter of a circle round. The slide E presses then a second slab of sugar through between the rollers B B', and then upon the circular plate H, whereby the slab lying upon this plate H, and which, as above described, has been turned one-quarter of a circle round, is moved forward and pushed through between the second set of rollers, D D', which likewise

cut grooves into both sides of the slab simultaneously parallel and exactly opposite to each other; but as this slab has been turned one-quarter of a circle round by the plate H, the grooves cut on both sides of this slab will be at right angles to the grooves cut by the knives or saws of the first set of rollers, dividing and cutting thereby said slab of sugar into regular square blocks, which by the least shaking will break asunder.

For the purpose of assisting and facilitating the breaking asunder the blocks, the slabs, after being grooved as above described, may be made to pass between rollers having brushes placed over their surfaces, whereby, while being forced through between said brushes, the blocks will easily be separated and broken without hurting the corners, and at the same time the same will be cleaned of all sawdust which may adhere to the same. Instead of using rollers covered with brushes for the purpose of breaking the blocks apart, the same may be covered with india-rubber, or any other elastic

substance projecting some distance from the body of the rollers.

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

1. The arrangement of two rollers running parallel to each other and provided with circular knives, cutters, or saws placed directly opposite to each other, for the purpose of cutting parallel grooves into both sides of a slab of sugar simultaneously, in the manner and for the purpose described.

2. The arrangement of the circular turning plate H between two sets of rollers provided with circular knives or saws, as described, operating so as to turn the slabs of sugar one-quarter of a circle round, in the manner and for the purpose substantially as described and set forth.

WILLIAM MOLLER.

Witnesses:

L. W. WARNER,
W. W. BLISS.