

L. BIDDLE.  
CANE MILL.

No. 104,544.

Patented June 21, 1870.

Fig 1

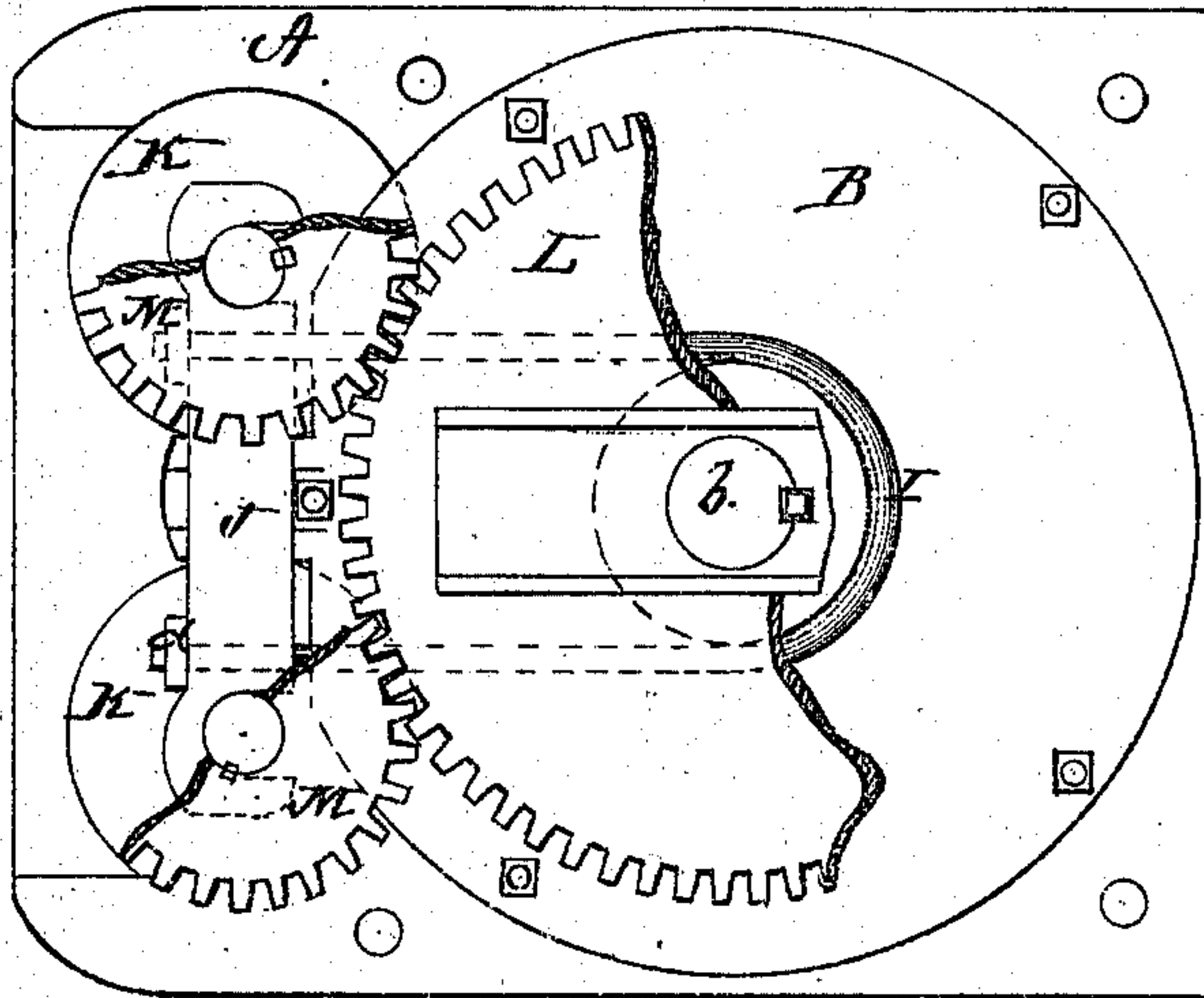
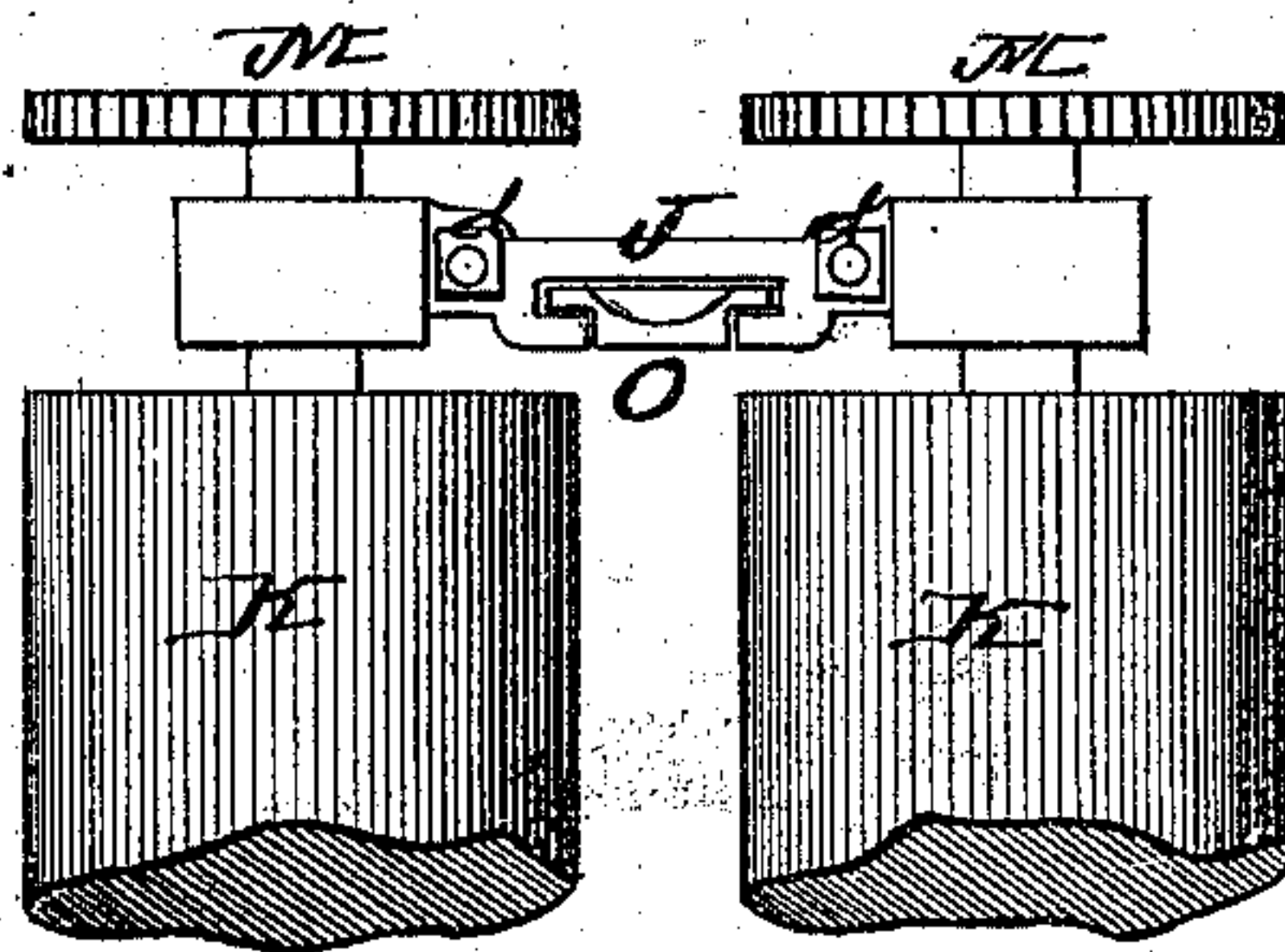


Fig 2



Witnesses  
Harry King  
C. L. Green

Inventor  
Leopold Biddle,  
per  
Alexander Mason  
Atty





# United States Patent Office.

LEOPOLD BIDDLE, OF KNOXVILLE, IOWA.

Letters Patent No. 104,544, dated June 21, 1870.

## IMPROVEMENT IN CANE-MILLS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, LEOPOLD BIDDLE, of Knoxville, in the county of Marion and in the State of Iowa, have invented certain new and useful Improvements in Cane-Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in an arrangement of bolts or screws, together with movable boxes or bearings, of cane-mills, constructed in such a manner as to be independent of the frame wherein the rollers or pressure-cylinders work, so that no part of the crushing strain, during the working of the mill, in grinding is exercised upon the frame-work of the same.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my mill;

Figure 2 is a front view;

Figure 3 is a plan view of the bed of the frame; and

Figure 4 is a vertical section of a portion of the frame, showing the large roller or cylinder.

The frame of my machine consists of a bed, A, and top plate B, having a circular casing, C, between them, and firmly bolted together.

On the bed-piece A, within the casing C, are placed four blocks, D D, between which is a flanged collar, E.

In this collar the lower journal *a* of the large roller or cylinder G has its bearing.

The upper journal *b* of said cylinder passes upward through a circular opening in the top plate B, and is within said opening surrounded with a similar flanged collar, H, the two flanged collars E and H being so placed that their flanges are nearest to the cylinder.

Around each of the collars E H is placed a bent rod, I, the ends of which run parallel with each other, and pass through a bar, J, and tightened on the outside with nuts *d d*.

The bars J J are provided with vertical grooves at their ends on the inner side, which grooves form bearings for the journals of the small rollers or cylinders K K, the lower one of the bars J resting upon the bed-piece A, or upon ways on the same.

Upon the journal *b* of the large roller G, above the top plate B, is keyed a large cog-wheel, L, which gears with smaller cog-wheels M M, upon the upper journals of the smaller rollers K K. The large roller being rotated by any suitable means, the smaller rollers will consequently also be revolved.

In all the cane-mills used at the present time, the power to crush the cane rests in the strength of the top and bottom plates of the frame of mill, and is brought into action by means of weighted levers or set-screws fastened by divers devices to said plates. But in my mill this crushing power is obtained by means of the combination of the set-screws and movable bearing of the rollers releasing the frame of the mill from danger of breaking.

This being actually the case, it is evident that I can cut down the size as well as the weight of my frame, use less metal, and put up a cheaper and better mill than has heretofore been offered to the public.

I do not claim as new the several devices above described, nor any general combination of the same.

Having thus fully described my invention,

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

The improved cane-mill above described, consisting of the flanged collars E H, rods I I, with guides O, in combination with the rollers G and K K, when said parts are constructed, arranged, and operated as herein described, and for the purposes set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 17th day of November, 1869.

LEOPOLD BIDDLE.

Witnesses:

WM. WEYERS,

C. F. GARRETSON.