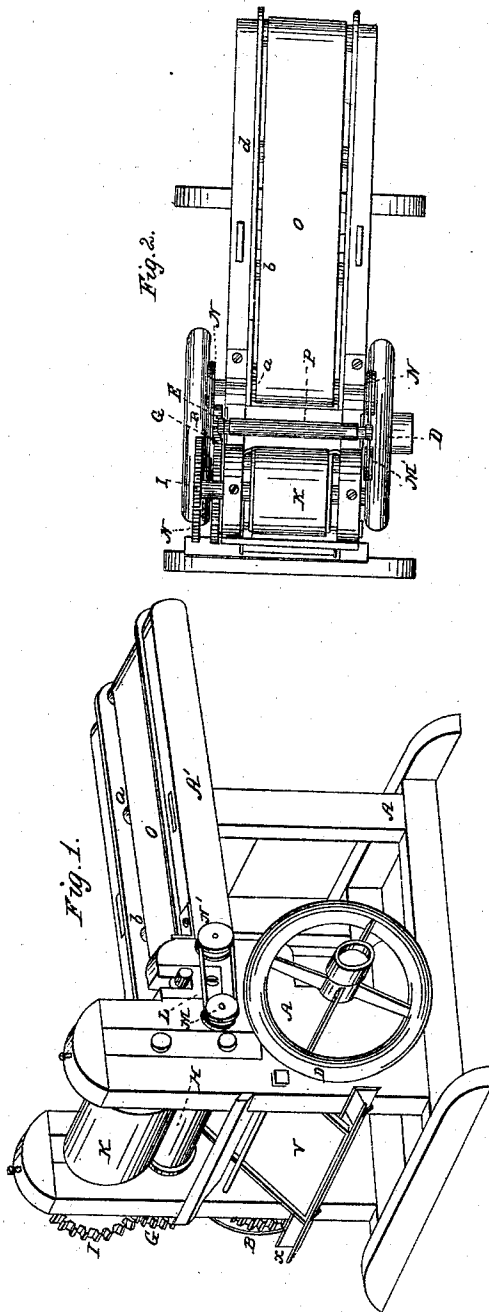


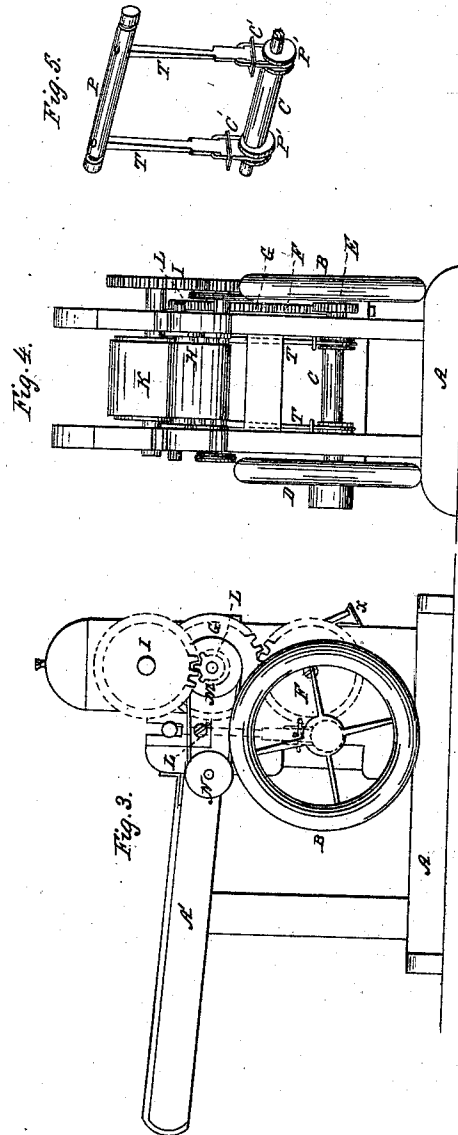
M. ROE.
Cane Mill.

No. 31,828.

Patented March 26, 1861.



Witnesses:
W. H. Summings
Henry Voth



Inventor:
M. Roe.

UNITED STATES PATENT OFFICE.

MARTIN ROE, OF TOWNSEND, OHIO.

IMPROVEMENT IN SUGAR-MILLS.

Specification forming part of Letters Patent No. 31,828, dated March 26, 1861.

To all whom it may concern:

Be it known that I, MARTIN ROE, of Townsend, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Sorghum-Sugar Mills; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a top view. Fig. 3 is a side view. Fig. 4 is an end view. Fig. 5 is a detached section.

The same letters refer to like parts in the different views.

My improvement relates to a sorghum-mill consisting of a crushing-bar operated by two eccentrics connected to the main shaft, also to pressing cane after it is crushed between two rollers, the upper one being the largest, for the purpose of bearing more directly on the cane, and to permit the juice to flow out more freely.

A in the different figures represents the frame of the mill, which may be of any suitable form; B and D, driving-wheels on the ends of the shaft C outside of the frame, by means of which the mill is operated. Inside of the driving-wheel B on the shaft C is a small gear-wheel, E, that works in the cog-wheel F, by means of which the gear-wheel G on the end of the shaft of the roller H is operated.

K is a larger roller placed directly above H, and revolved by means of the cog-wheel I, operating in the gear L on the outer end of the shaft of the roller H.

A' is a frame that supports the rollers that revolve the apron O. On the ends of the inside roller, *a*, Fig. 2, are the pulleys N and N', that are connected by belts to the pulleys M and M'. Motion is conveyed to this roller by the pulley M, being on the shaft of the roller H. *b*, *d*, and *c* are rollers that support the apron.

The crushing-bar P and its connection with the shaft C is clearly shown in Fig. 5.

T T are connecting-rods secured to P, and with the straps and heads C' C' connect the eccentrics P' P' with the crushing-bar P. The ends of this bar rest and move in the guides or boxes L L. (Shown in Figs. 1 and 3.)

By turning the driving-wheel all the working parts of the mill—the rollers, crushing-bar, and apron—are simultaneously put in motion, and as the cane is placed on the belt O it is carried along on it under the crushing-bar P, which is forced up and down by means of the eccentrics with every revolution of the shaft C. After the cane is crushed it passes between the rollers K and H, where the juice is easily and rapidly pressed out, and flows down the conveyer V into the spout X, where it runs off. The advantage gained by crushing the cane is that the rollers H and K can be run at a much higher speed, accomplishing the work much more efficiently and rapidly than could be done without the process of crushing. On account of the upper roller being larger than the lower one, it gives the pressure upon the cane a more direct bearing, and permits the juice to flow out more readily. The arrangement for conveying the cane to the crusher is also of peculiar importance, as it has so many advantages over that of placing the cane between the rollers by hand.

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

The crushing-bar P, operated as set forth, in combination with the apron O and rollers H K, when operating conjointly, in the manner and for the purpose described.

MARTIN ROE.

Witnesses:

E. MARTIN,
H. MARSHALL.