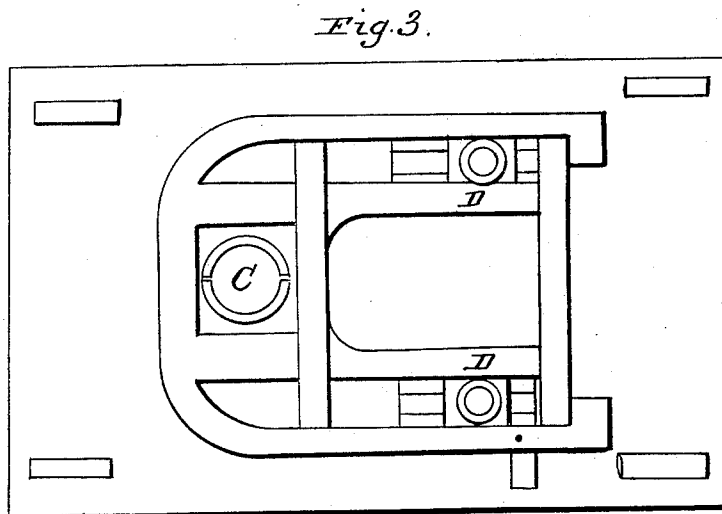
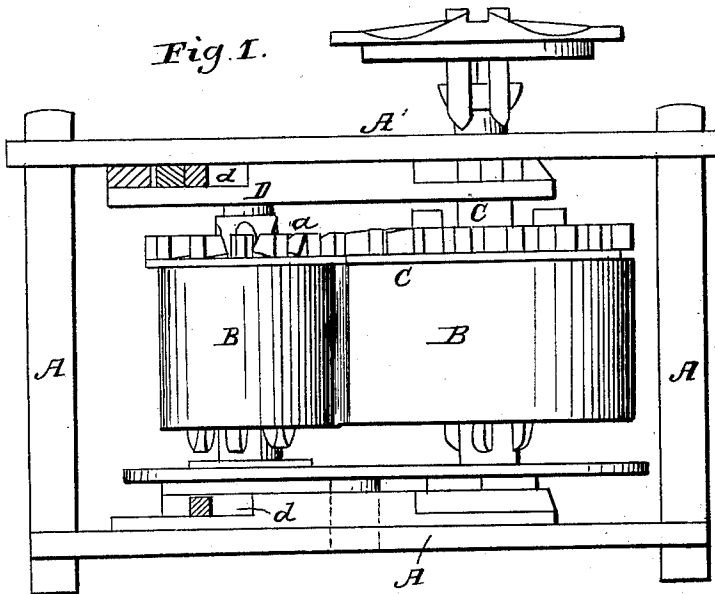


H. C. EMERY.

Cane Crusher.

No. 24,621.

Patented July 5, 1859.



Witnesses:

J. M. Place
B. F. Merrill.

Inventor:

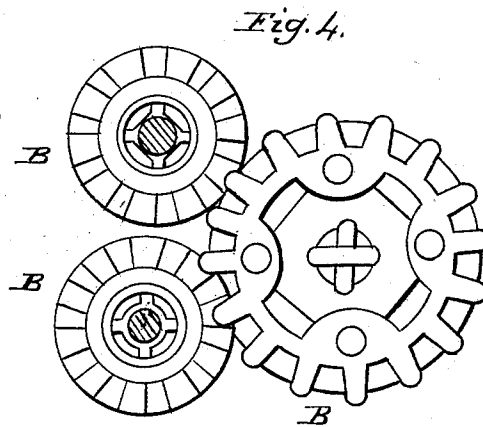
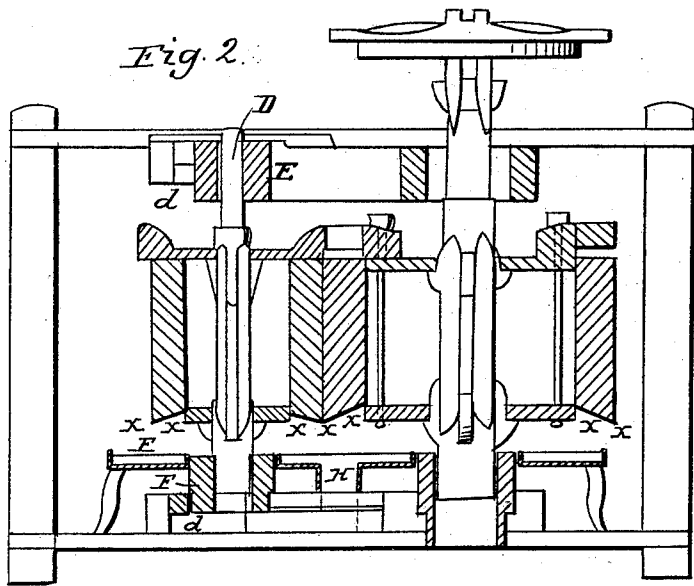
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H. C. Emery

UNITED STATES PATENT OFFICE.

H. C. EMERY, OF LINCOLN, OHIO.

IMPROVEMENT IN MILLS FOR CRUSHING CANE.

Specification forming part of Letters Patent No. 24,621, dated July 5, 1859.

To all whom it may concern:

Be it known that I, H. C. EMERY, of Lincoln, in the county of Marrow and State of Ohio, have invented certain new and useful Improvements in Machines for Crushing Cane; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement of those parts which will be hereinafter particularly described.

In the figures, Figure 1 represents a side elevation. Fig. 2 is a longitudinal vertical section. Fig. 3 is a plan view of the under side of the top of the frame. Fig. 4 is a top view of the rollers.

A represents in the drawings the frame of the machine.

B B' B' represent three rollers, which are secured in the frame A. These rollers stand in a vertical position, as is shown in the drawings. A shaft, C, passes through roller B, and shafts D D pass through rollers B' B'.

A' A' represent the top piece and bottom piece of the frame A. These pieces are provided with suitable journal-bearings for the shaft of roller B. They are also provided with grooves in which are placed suitable collars, which surround the shafts D D at top and bottom. These collars E E are so secured in the grooves in the top and bottom pieces that they are allowed to slide backward and forward in said grooves for the purpose of adjusting the rollers B' B' to the roller B, said adjustment being effected by means of the wedges *d d*, which pass into the top and bottom pieces through a slot, and are thus allowed to come in contact with the shafts D D. The lower ends of the three rollers are beveled, as is clearly seen in Fig. 2, as from *x'* to *x*. The object of this bevel is to prevent the juice, when pressed from the cane, from running back toward the center of the rollers, and to conduct it off directly from the periphery of the rollers. The rollers are all provided with cog-gearing at their tops, as is represented. The gearing of the two rollers B' B' is secured on top of a flange, *a*, with which said rollers are provided. This flange overlaps the roller B and enters a groove, *c*, in said roller. The object of this is to pre-

vent the cane from rising and interfering with the gearing of the machine or from getting above the rollers when or in case no gearing is used.

It will be seen that the grooves in the top and bottom pieces in which the shafts D D are secured are parallel with each other, and at such a distance apart that when the rollers B' B' are moved in them toward the roller B the centers of rollers B' will move in a direct line toward the periphery of the roller B, not directly toward but parallel with its center. Thus when the rollers approach the roller B a wedge-pressure is obtained. As both ends of the shafts D D are adjustable, they may both be moved at once, or one end may be moved without changing the other, should the case require it.

F represents the pan, which is placed under the rollers for the purpose of catching the cane juice as it runs down. H is an aperture in said pan, through which the juice is conducted into receptacles for carrying it away.

In operating this machine, power is applied to the shaft of roller B in any desirable manner, so as to give the roller a rotary motion. Roller B communicates motion to the rollers B' B'. As the rollers revolve together, the cane is fed in between the rollers B' and B, and is thus crushed and the juice pressed out. The rollers may be regulated to press different sizes of cane by means of the wedges *d d*, which urge them closer together, or which allow them to separate when it is desirable.

I do not lay any claim to the several parts of this machine distinctly and separately; but

I do claim—

Arranging the adjustable shafts of the rollers in slide-bearings at top and bottom, operating them in a rectilinear frame in a direct manner for giving a wedge-pressure, providing them near their top with flanges and a groove, and a bevel on their bottom from the peripheries toward the shafts, substantially as described, the several parts standing in the relation to each other herein specified, and for the purpose set forth.

H. C. EMERY.

Witnesses:

J. M. PLACE,
B. G. MERRILL.