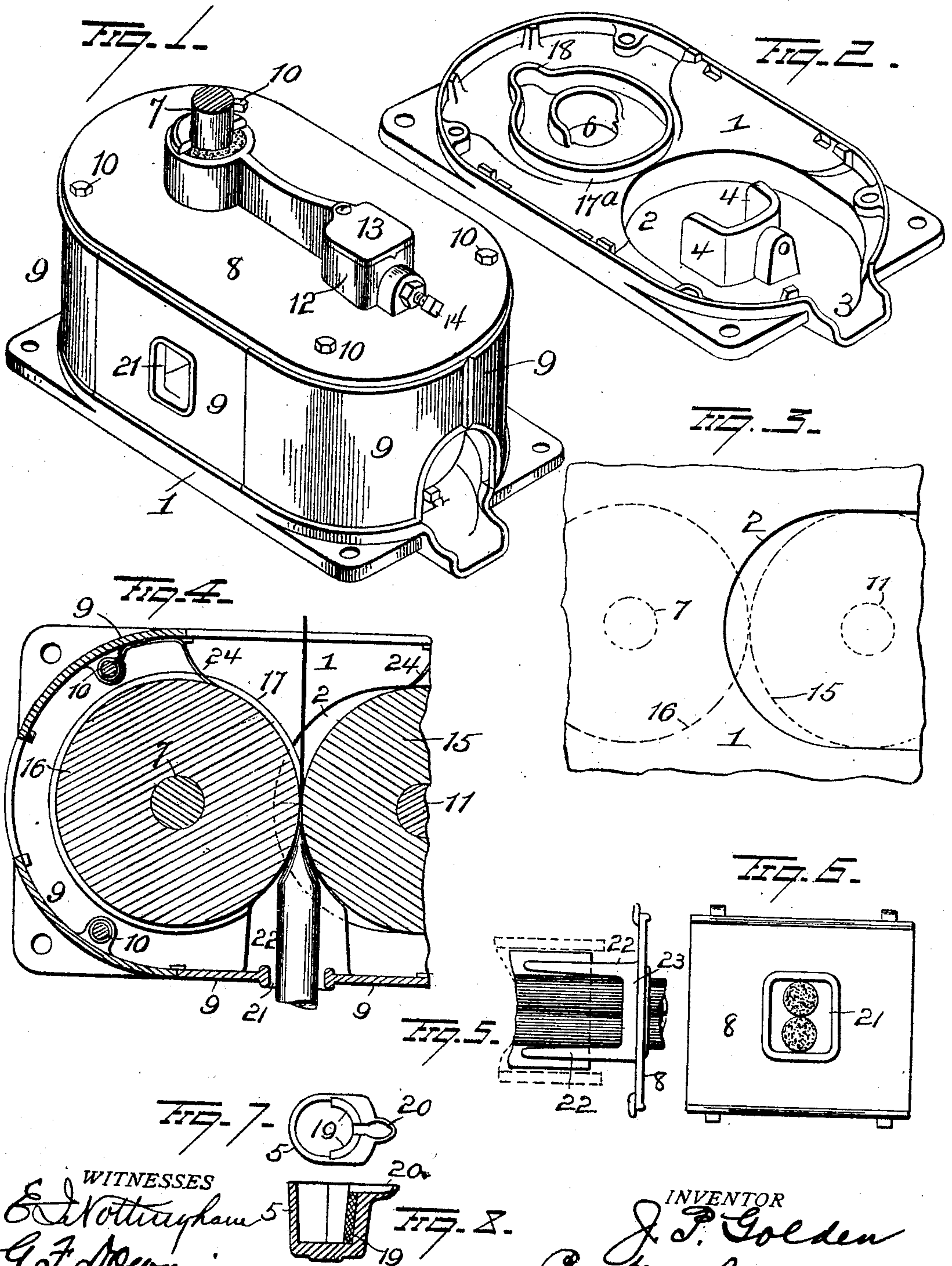


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J. P. GOLDEN.
TWO ROLL CANE MILL.
APPLICATION FILED MAY 27, 1904.



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TWO-ROLL CANE-MILL.

No. 7.9 327.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN PORTER GOLDEN, a resident of Columbus, in the county of Muscogee and State of Georgia, have invented certain new and useful Improvements in Two-Roll Cane-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved two-roll cane-mill, the object of the invention being to provide an improved cane-mill of the vertical two-roll type with improved mounting for the driven roll, improved arrangement of juice-receiving cavity or receptacle, and other and various improvements, which will hereinafter appear.

With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an isometric view of the complete mill. Fig. 2 is a similar view of the mill-bottom. Fig. 3 is a diagrammatic view illustrating the relation of the rolls to the juice cavity or receptacle. Fig. 4 is a fragmentary view in horizontal section. Fig. 5 is a view in side elevation of the feed-box. Fig. 6 is a view in elevation, taken at right angles to Fig. 5. Fig. 7 is a top plan view of my improved journal-box, and Fig. 8 is a view in vertical section thereof.

1 represents the base or bottom plate of my improved mill, which is provided with a comparatively large juice cavity or receptacle 2, having an outlet or discharge spout 3 at one end. An upwardly-projecting half-round box 4 is located in the center of the juice-cavity 2 to receive my improved bearing-cup 5, which will be more fully hereinafter described. A cavity 6 is provided in the main portion of the bottom 1 for the vertical drive-shaft or journal 7.

8 represents the casing-top, and 9 the side sections of the casing, which are securely clamped in position between the top and bottom plates by means of bolts 10, and said side sections adjacent to the discharge-spout 3 are made with a comparatively large opening, which permits the ready removal of clogging

material without interrupting the operation of the mill and also affords an entrance through which lubricant can be supplied to cup 5.

A shaft or journal 11 is mounted at one end in cup 5 and projects up into a box 12 in top 8, where it is provided with a suitable bearing, which is maintained sufficiently lubricated by means of lubricant-saturated waste in said box 12 and protected by a suitable cover 13 thereon. Set-screws 14 are mounted in boxes 12 and 4 and engage the journal-bearings, permitting the roll 15 on said journal 11 to be adjusted toward or away from a roll 16 on shaft or journal 7, said roll 16 having an annular flange 17 at its top and bottom overlapping the ends of roll 15 and guiding the canes through the mill prevent upward or downward deflection.

The cavity or juice receptacle 2, it will be observed, extends beyond the meeting or squeezing faces of the rolls and is of such size and so located that it insures a free and unobstructed passage from the squeezing-surface of the rolls to the spout and obviates the liability of its collecting on the platform above the same, and to positively exclude any juice from the cavity 6 an upwardly-projecting flange 17^a is provided around the same and has an offset 18 to permit the supplying of lubricant, which finds its way to the bearing.

The cup 5, above referred to, rests in box 4, is provided with a semicylindrical Babbitt-metal bearing 19, and has a spout 20 at its upper end in which lubricant can be poured from a can or other supply inserted through the opening at the juice-discharge end of the mill.

The central side section of the mill has an opening 21 for the admission of canes to be pressed and is provided around said opening on the inner face of the casing with a guide-frame 22, comprising parallel top and bottom plates of a shape to project between the rolls and connected by side flanges 23 to strengthen them and guide the canes. These plates 22 prevent the canes being fed too low or too high, in which latter event they would clog the gears (not shown) for transmitting motion from the drive to the driven shaft if too high or run off lower end of roll if too low, tending to clog mill.

Suitable spring-scrapers 24 are sprung

around the bolts 10, bear against the casing sides, and have their free edges against the rolls to clear the same of bagasse or pressed cane.

By constructing the bottom of the mill with
 5 a juice-receiving cavity much smaller than the bottom juice will flow more freely from the mill, as it will be understood that in a restricted area the juice quickly attains a depth from which it will freely leave the cavity,
 10 and there is a much smaller surface to which the juice can stick and become lost, as well as render the mill dirty and unfit for perfect work. Then, again, by providing this restricted area of juice-cavity one of the roll
 15 journal-boxes can be located entirely outside thereof and render it impossible for lubricant from such journal to contaminate the juice, and while I do not wish it understood that lubricant from the journal-box in the cavity
 20 will mix with the juice, for the construction is especially designed to prevent this, still there is absolutely no possibility of the lubricant from the other journal mixing with the juice, nor can the juice clog the journal, and
 25 a greatly improved mill is the result.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I would have it under-
 30 stood that I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

35 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a two-roll vertical cane-mill, the combination of a mill-bottom having a juice-re-
 40 ceiving cavity or depression occupying but a fraction of the area of the bottom, journals, rolls thereon, and the journal of one of said rolls located entirely outside the area of the juice-receiving cavity.

45 2. In a two-roll vertical cane-mill, the combination of a mill-bottom having a juice-receiving cavity or depression occupying but a fraction of the area of the bottom at one end, a discharge-spout at one end of the bottom
 50 communicating with said cavity, two vertical

rolls mounted to turn on said bottom, the journal of one of the rolls located approximately in the center of the juice-cavity and the other entirely outside the same.

3. In a two-roll cane-mill, the combination 55 of a casing-bottom having a juice-receiving cavity or receptacle therein occupying but a fraction of the area of the bottom and a discharge-spout from said cavity or receptacle, two vertical rolls having journals mounted to 60 turn in cavities or boxes in said bottom and one of said boxes located within the juice-receiving cavity or receptacle and the journal of the other roll located beyond said cavity.

4. In a two-roll cane-mill, the combination 65 with a casing-bottom having a juice cavity or receptacle therein occupying but a fraction of the area of the bottom, of two vertical roll-journals mounted to turn on said bottom, rolls on said journals, a half-round box within said 70 juice cavity or receptacle, and a cup in said box adapted to receive one of said roll-journals and a bearing on the bottom beyond said cavity for the other roll.

5. In a two-roll cane-mill, the combination 75 with a casing-bottom having a juice receptacle or cavity therein, a raised journal-box within said juice cavity or receptacle, a bearing-cup in said box having a lubricant-inlet spout at its top projecting over the box, a journal in 80 said cup, a roll on said journal, a second roll, and a bearing on the bottom for said second roll, located beyond the juice-cavity.

6. In a two-roll cane-mill, the combination 85 of a casing-bottom having a juice-cavity extending from one end thereof to a point approximating the center, two rolls, a bearing located within said juice-cavity for a journal of one of said rolls, which roll terminates rear- 90 wardly of the inner end of said juice-cavity, a bearing in the bottom beyond the juice-cavity for the other roll, said last-mentioned roll projecting over the inner end of the juice-cavity.

In testimony whereof I have signed this specification in the presence of two subscribing 95 witnesses.

JOHN PORTER GOLDEN.

Witnesses:

C. O. CROWELL,
 N. D. DUDLEY.