No. 832,423. PATENTED OCT. 2, 1906.

J. P. RODRIGUEZ.

CRUSHING ROLL.

APPLICATION FILED FEB. 23, 1906.

Fig. 1

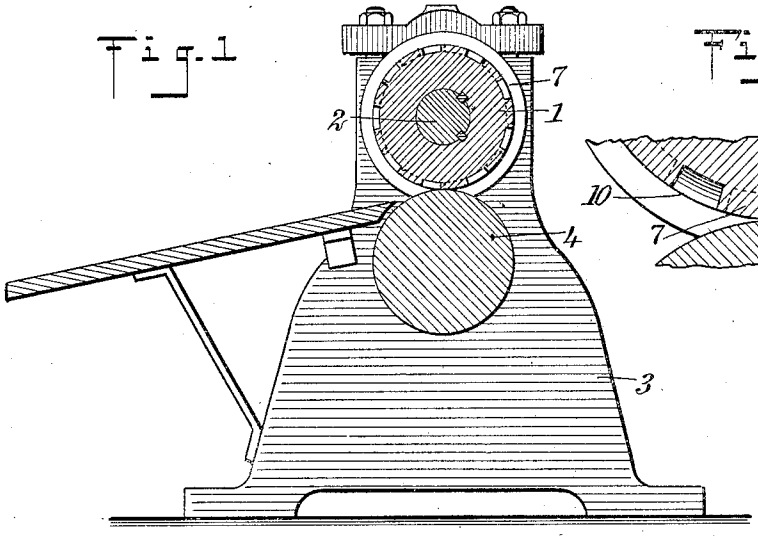
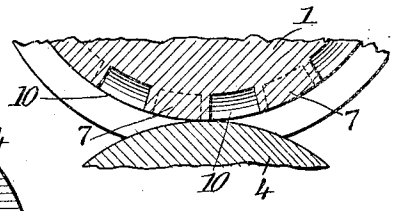


Fig. 3



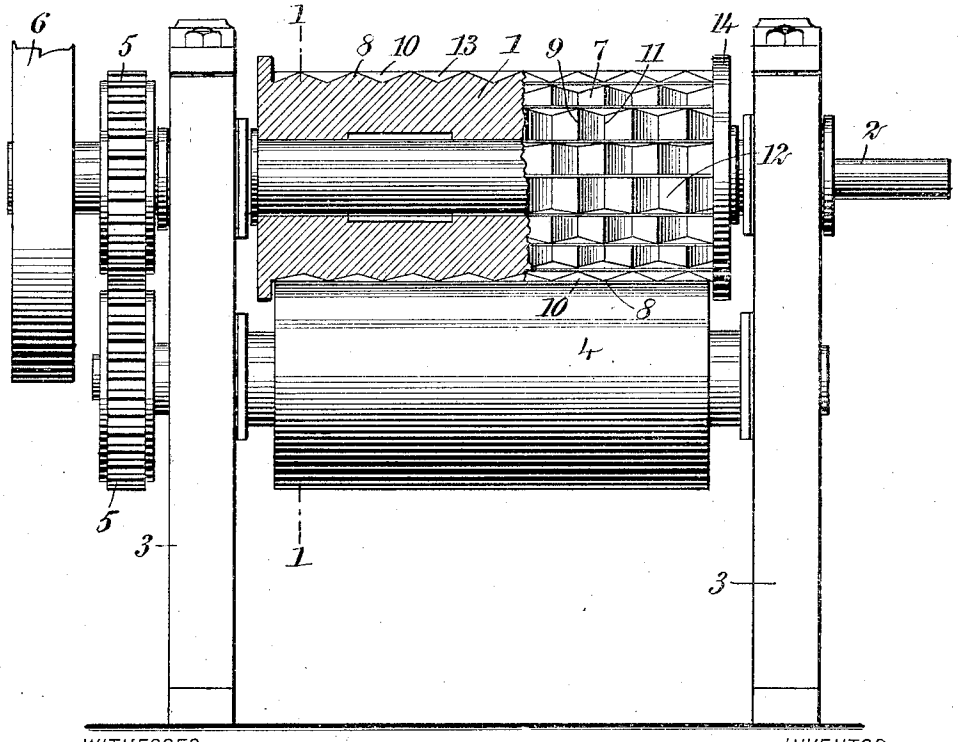


Fig. 2

WITNESSES:

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JOSÉ PELAEZ RODRIGUEZ, OF CAIBARIEN, CUBA.

CRUSHING-ROLL.

No. 832,423. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed February 23, 1906. Serial No. 302,533.

To all whom it may concern:

Be it known that I, JOSÉ PELAEZ RODRIGUEZ, a citizen of the Republic of Cuba and a resident of Caibarien, in the Province of Santa Clara, Republic of Cuba, have invented a new and Improved Crushing-Roll, of which the following is a full, clear, and exact description.

This invention relates to crushing-rolls, and especially to the class of rolls used in the treatment of sugar-cane preparatory to extracting the juice.

The invention consists in the construction of a roll to be described more fully hereinafter, and particularly set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical cross-section taken through a crushing-roll of my invention. This view is taken in the plane of the line 1 1 of Fig. 2. Fig. 2 is substantially a front elevation of the crushing-roll, a portion of the same being shown in cross-section; and Fig. 3 is a cross-section taken substantially in the same plane as the line 1 1 and showing, upon an enlarged scale, a portion of the rolls at the point where their faces come together.

Referring more particularly to the parts, 1 represents the roll of my invention. In using the roll I prefer to mount it upon a horizontal axle or shaft 2, supported in suitable pedestals or frame members 3, and adjacent to the said roll 1 I provide a roll 4, which may have a plain face, as shown. Gear-wheels 5, attached to the axles or shafts of the rolls, enable them to be turned in unison in opposite directions, and one of the shafts, as the shaft 2, is adapted to be driven continuously by means of a suitable belt 6. I form the surface of the roll 1 as indicated in the figures. The roll being of substantially cylindrical form I provide its outer face with teeth 7, disposed in longitudinal rows. These teeth are obtusely V-pointed, as indicated most clearly in Fig. 2, so that they present apexes 8, presenting edges 9, disposed transversely with respect to the axis of the roll. Between these apexes recesses 10 are formed, which terminate below in transversely-disposed edges 11. In this way the entire outer surface of the roll is covered with a plurality of rows 12 of the said teeth, and these teeth are formed in staggered relation with respect to each other—that is, the teeth of adjacent rows lie intermediately with respect to each other, the teeth of one row lying opposite the recess of the next, as will be readily understood. Between the rows of teeth the material of the roll is formed into longitudinally-disposed ribs or webs 13. These webs are extended upwardly, so as to be substantially in alinement with the apexes of the teeth, and they extend downwardly to the bottoms of the recesses 10. While the teeth 7 are of massive form and the width of the teeth relatively great, I prefer that the ribs or webs 13 should be relatively small, as indicated, so that these ribs or webs operate as cutters to lacerate the cane transversely as it passes between the roll 1 and the roll 4.

At the ends of the body of the roll I prefer to provide the same with enlargements or collars 14, which project laterally and slightly overhang the extremities of the coöperating roll 4, as indicated in Fig. 2. The manner of attaching the roll 1 to the shaft 2 is immaterial, and any suitable means may be adopted.

It should be understood that the cane will be passed between the rolls 1 and 4 in the usual manner. As the cane passes between the rolls the teeth 7 operate to split the woody fiber or covering and squeeze the same, while the webs 13 operate to cut the material of the cane transversely, as stated above. In this way a very efficient laceration of the body of the cane is effected, which is highly conducive to an efficient extraction of the juice thereafter.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A crushing-roll having teeth formed in straight rows extending longitudinally of said roll, and having straight webs lying between said rows and extending longitudinally thereof.

2. A crushing-roll having a plurality of rows of teeth extending longitudinally there-

of, the teeth in said rows being disposed in staggered relation with respect to each other, whereby a tooth in one row lies opposite depressions in the adjacent rows, said roll further having webs extending longitudinally thereof and separating said rows.

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

JOSÉ PELAEZ RODRIGUEZ.

Witnesses:
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