A. M. ERKELENS.

ROLL FOR SUGAR CANE MILLS.

APPLICATION FILED DEC. 23, 1915.

1,283,123.

Patented Oct. 29, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

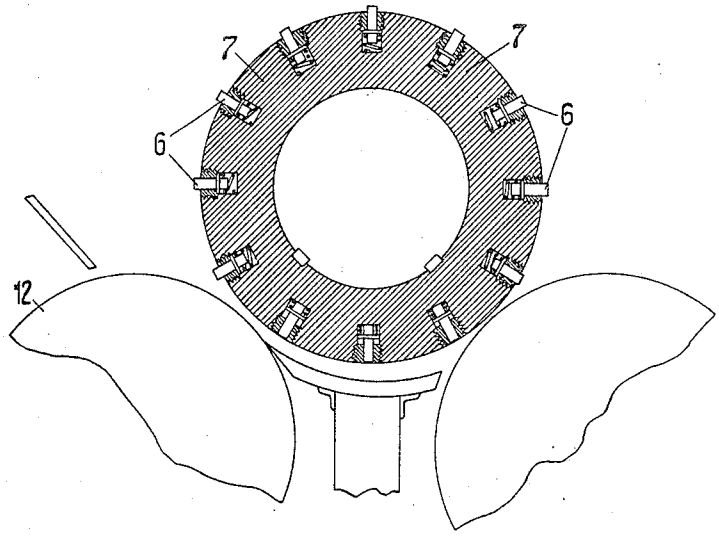
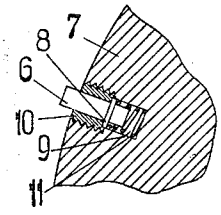


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

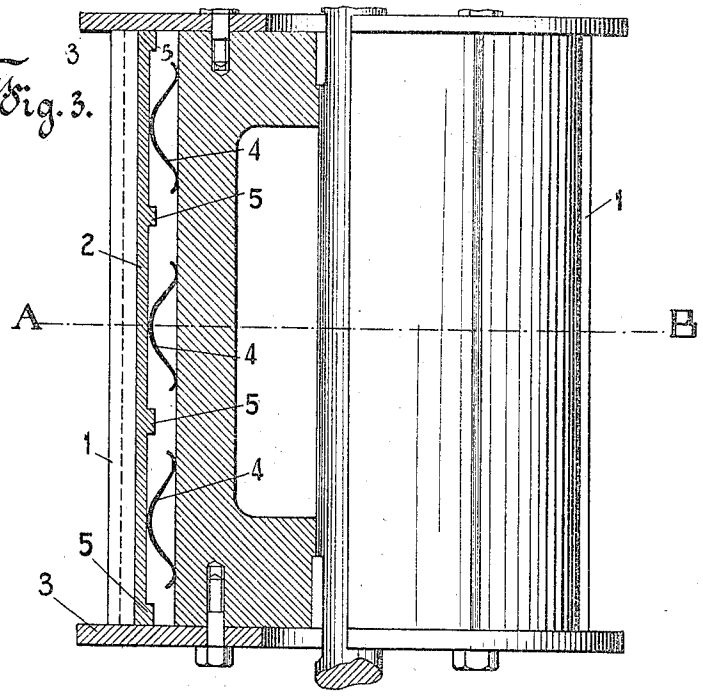
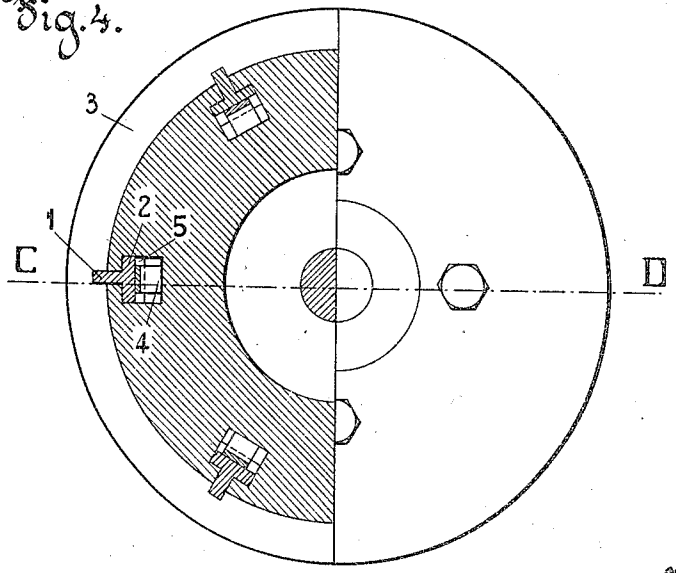


Fig. 4.



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UNITED STATES PATENT OFFICE.

ABRAHAM M. ERKELENS, OF SURABAYA, JAVA.

ROLL FOR SUGAR-CANE MILLS.

1,283,123. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed December 23, 1915. Serial No. 68,358.

To all whom it may concern:

Be it known that I, ABRAHAM MARIE ERKELENS, subject of the Queen of the Netherlands, residing at Surabaya, in the island of Java, Dutch East Indies, have invented certain new and useful Improvements in Rolls for Sugar-Cane Mills, of which the following is a specification.

This invention relates to an improved construction of rolls for sugar cane mills, and has for its object to improve the gripping capacity thereof. This gripping capacity has great influence on the pressing and crushing of the sugar cane, and on the amount of sugar cane which can be crushed in a certain time. According to the invention the circumference of the rolls is provided with pins or bars which extend beyond the circumference of the rolls and are arranged resiliently in the rolls so that they can be forced into the rolls until their outer ends lie in, or approximately in, the cylindrical circumference of the rolls.

Figure 1 shows a sectional view of a roll provided with pins.

Fig. 2 shows an enlarged sectional view of a part of the roll with a pin arranged therein;

Figs. 3 and 4 show a longitudinal and a cross sectional view of a roll provided with resilient bars.

The pins 6 (Figs. 1 and 2) are placed in rows or arranged in any other formation in the outer circumference of the roll 7. The pins are provided with a collar 8, and are held in the holes 9 by means of threaded rings 10, screwed therein, till their outer ends are flush with the circumference of the roll. A spring 11 is arranged between the collar 8 and the bottom of the hole 9, keeping the pin extended when no force presses it inward.

When now the roll rotates in the direction of the arrow (Fig. 1) the extending pins grasp the sugar cane and bring it between the roll 7 and the second roll 12. As soon as the cane is caught between the rolls 7 and 12 the pins 6 have done their work and are forced inward, thereby giving that portion of the roll the form of a plain cylinder.

Another construction of roll is illustrated in Figs. 3 and 4. In the longitudinal direction of the rolls are provided bars consisting of a front narrow part 1 and a broader part or base 2. The bars are inserted in slots of such form that a space is normally left between the bars and the bottom of slots and are locked in position in the slots by means of the end flanges 3. In this space springs 4 are arranged which normally maintain the front parts 1 projecting out from the circumference of the roll. The bars are provided with blocks 5 which limit the inward movement of the bars. The bars have the same effect as the aforesaid pins but are in some cases more effective. The rolls according to the invention avoid a drawback of the known rolls provided with fixed teeth, whereby the cane is insufficiently crushed in the spaces around the said teeth,

What I claim is:

1. A roller for sugar-cane mills, having radial recesses formed therein and said recesses provided with threads, radially-movable members yieldingly mounted in said recesses, and means, in engagament with the threads aforesaid, for limiting the forward movements of the members.

2. A roller for sugar-cane mills, having circular radial recesses formed therein and said recesses having internal screw threads, yieldingly mounted pins in said recesses, and rings, having threads engaging those of the recesses, for limiting the forward movements of said pins.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ABRAHAM M. ERKELENS.

Witnesses:

HERB W. GREENSUNA,

CESAR COUWENBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."