C. QUESNELL.

ROTARY GRAIN CLEANER.

APPLICATION FILED MAR. 10, 1915.

1,173,737. **Patented Feb. 29, 1916.**

Fig. 1.

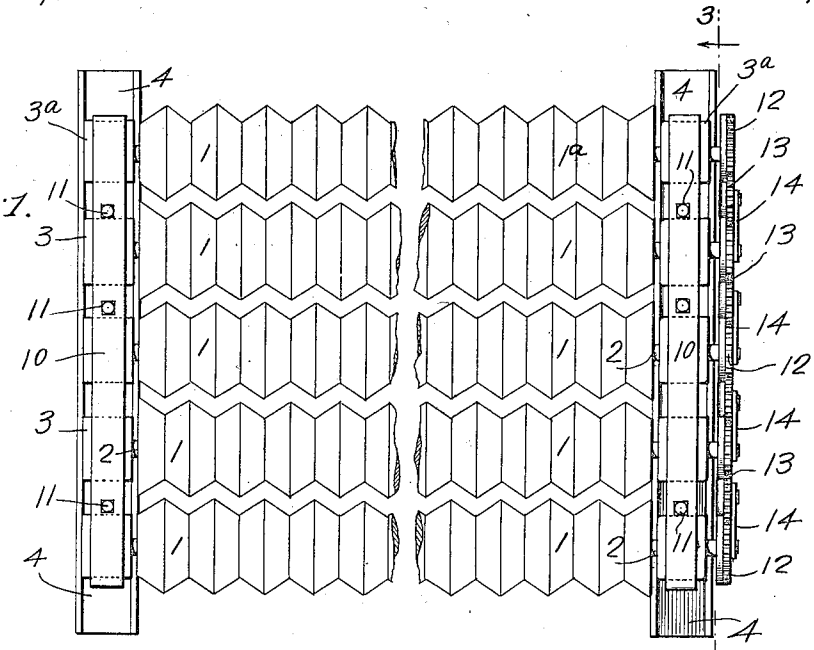


Fig. 2.

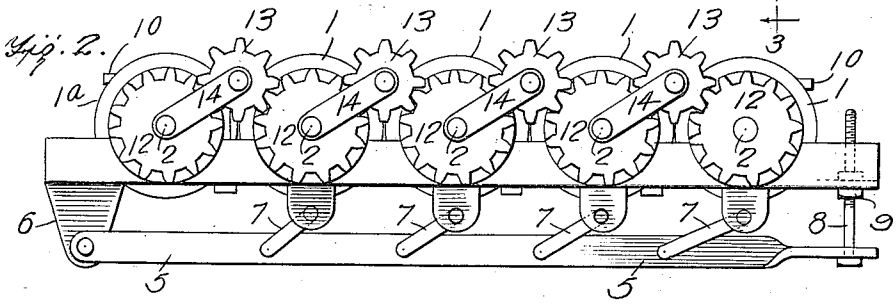
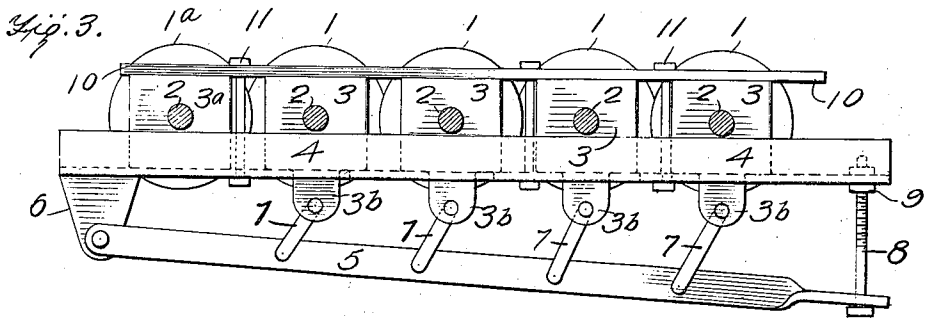


Fig. 3.



WITNESSES

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ROTARY GRAIN-CLEANER.

1,173,737. Specification of Letters Patent. Patented Feb. 29, 1916.

Application filed March 10, 1915. Serial No. 13,360. REISSUED

To all whom it may concern:

Be it known that I, CORNELIUS QUESNELL, a citizen of the United States, and a resident of Moscow, in the county of Latah and State of Idaho, have invented an Improvement in Rotary Grain-Cleaners, of which the following is a specification.

My invention is an improvement in the class of rotary grain and other sieves designed as substitutes for reciprocating or shaking sieves and screens.

The invention is particularly embodied in the means for supporting and also shifting or adjusting a series of horizontal rotary rollers, to vary the distance between them, as required for different sizes of grain; also in the means for automatically communicating motion from one roller to another.

Figure 1 is a plan view of my complete grain cleaner. Fig. 2 is an end view. Fig. 3 is a vertical section on the line 3—3 of Fig. 1.

The rotary rollers 1 and 1ª are preferably formed of wood, and each corrugated circumferentially or having a succession of alternating swells and contractions. The rollers are arranged side by side parallel and in the same horizontal plane, the swells or circumferential ribs of one roller being directly opposite the circumferential contractions or grooves of the adjacent one. The rollers have gudgeons 2 which are journaled at their ends in rectangular blocks 3 and 3ª. The latter are arranged and supported in horizontal channel bars 4, and all of them, save the front one 3ª, are slidable relative to each other in the channel bars 4. The bottom of the latter is provided with a series of longitudinal alined slots and each of the journal blocks 3 is provided with a pendent lug 3ᵇ which projects through and is adapted for sliding adjustment in one of such slots.

Straight levers 5 are pivoted to pendent arms 6 of the channel bars 4 and positively connected with the several lugs 3ᵇ of blocks 3 by means of links 7. The free ends of the levers are supported by threaded bolts 8 whose upper ends pass through slots in the bottoms of the channel bars and are provided with nuts 9 on the opposite sides of the bottom for securing them in any vertical adjustment. It will now be understood that by manipulating such nuts, the bolts 8 may be adjusted higher or lower and the levers 5 will thus be correspondingly adjusted so that through the medium of the links 7, which serve as push or pull rods, the journal blocks 3 may all be adjusted simultaneously toward or from each other and the stationary sieve 3ª.

A straight horizontal bar 10 is shown applied on the upper side of the journal boxes 3, 3ª, and clamp bolts 11 pass through the same and the channel bars 4 and thus serve as means for clamping the upper bar 10 upon the journal blocks or locking them in any position to which they may be adjusted.

In practice, the front roller, whose journal boxes are not movable in the channel bars, will be provided with a pulley or gear by which it will be operatively connected with some form of motor.

The means for rotatively connecting all the rollers with each other are as follows: A spur gear 12 is keyed on one end of each sieve shaft 2 and between each two gears 12 is arranged an idler 13, the same being mounted on the end of a link 14 that is journaled on the shaft of one of the adjacent sieves. Thus by gravity the several idlers 13 remain in mesh with adjacent gears 12 and operatively connect them, whatever be the adjustment of the sieves toward or from each other. In other words, it is apparent that the pivotal connection of the links with the shafts 2 of the sieves permits the idlers to rise and fall corresponding to the adjustments of the sieves relative to each other, and the rollers are therefore all rotated simultaneously even when an adjustment is being made by means of the levers 5, rods 7, and bolts 8.

The grain to be cleaned is delivered by any suitable means upon the rollers 1 and 1ª while the latter are rotated at the required speed, and the grain in passing down between the rollers is subjected to such degree of friction as to remove adhering foreign substances.

In practice, a blast of air may be delivered up between the rollers to carry off the light material removed by friction.

What I claim is:—

1. A grain cleaner comprising a series of rotary members arranged parallel and side by side, journal boxes for the shafts of the same which are adapted for adjustment horizontally and simultaneously toward and from each other, and means for effecting such adjustment, the same comprising levers pivoted beneath the rollers, rods connecting

the levers with the several journal boxes of the adjustable rollers, and means for adjusting the free ends of the levers vertically, as described.

2. In a rotary grain cleaner, the combination with a series of rollers proper arranged parallel, boxes for the journals of the same, parallel horizontal channel bars in which the boxes are held slidably, the boxes being provided with lugs projecting through slots in the channel bars, and means connected with such lugs for adjusting the rollers toward or from each other simultaneously, as described.

3. In a grain cleaner of the type indicated, the combination with a series of rollers, boxes for supporting the journals of the same, gears applied to the ends of the journals, idlers meshing with each of two adjacent gears, and links pivoted on the journals and idlers pivoted in the free ends of the same, as described.

4. In a grain cleaner of the type indicated, the combination with rollers arranged parallel horizontally and having central journals, boxes in which the said journals are supported, means for supporting the boxes so that they are adapted to slide toward or from each other, means arranged below the rollers for adjusting them toward and from each other, and means for automatically connecting them rotatively, the same consisting of gears mounted on the axes of the rollers, idlers meshing with the gears of adjacent rollers, and links pivotally supporting the idlers, as described.

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Witnesses:

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