J. M. WESTBROOK.

GIN RIB.

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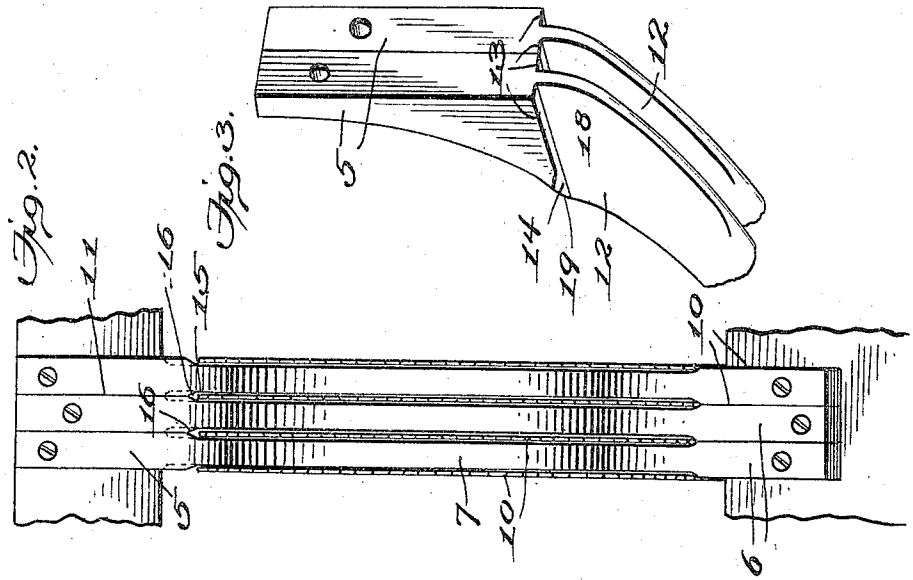
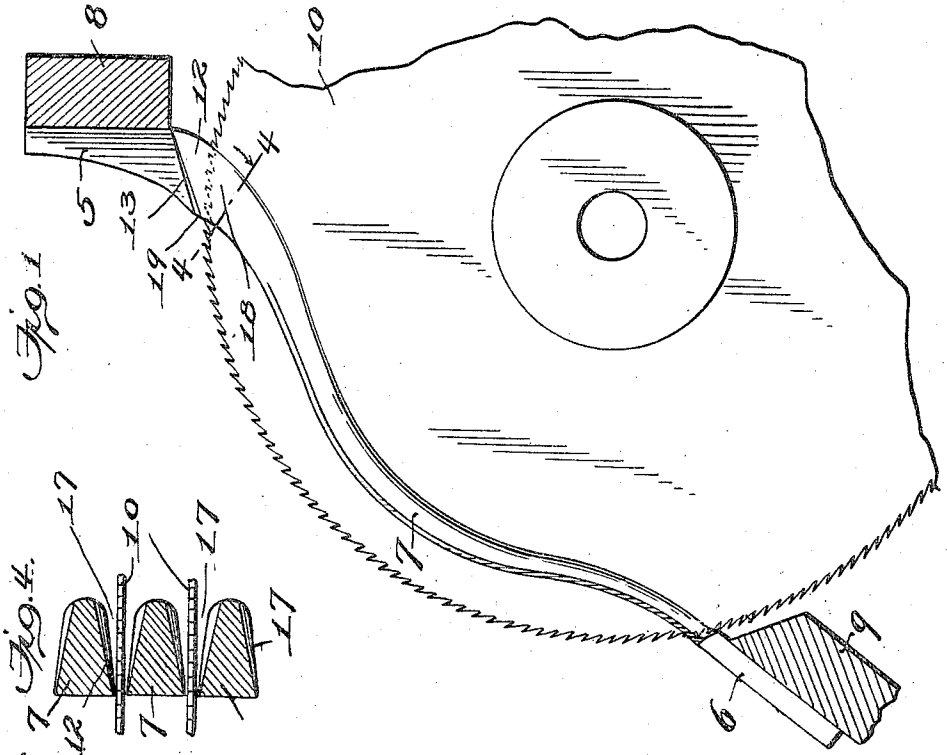
1,237,984. Patented Aug. 21, 1917.





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UNITED STATES PATENT OFFICE.

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GIN-RIB.

1,237,984. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed December 2, 1916. Serial No. 134,676.

To all whom it may concern:

Be it known that I, JOHN M. WESTBROOK, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Gin-Ribs, of which the following is a specification.

This invention relates to gin ribs, and the primary object of the same is to provide a rib wherein no opening is formed from the point of the tooth of the saw coöperating with the rib to the top of the rib, and accumulation of cotton and trash between the upper ends of the ribs is thus prevented and the upper part of the rib where the saw passes through is maintained in clear and reliable working condition. A further object of the invention is to provide a gin rib of the same width throughout its length so that the spaces between the assembled ribs will be the same width from the top to the bottom thereof except at the top where a clearance is formed in rear of the face edges of the ribs with which the cotton engages for the purpose of providing a clearance between the saw teeth passing through the upper portions of the ribs to avoid any tendency of the cotton hanging or catching upon the ribs when carried between the latter, the upper termination of the open spaces between the ribs being V-shaped and the upper walls of the clearance spaces receding upwardly and gradually away from the upper portions of the saws to give the latter free working action in carrying the lint therewith between the ribs and at the same time prevent the saws carrying or pulling trash or other matter between the upper portions of the ribs with the lint cotton.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter described and claimed.

In the drawing:

Figure 1 is a sectional elevation showing a portion of saw rib rails and one of the improved ribs in edge view.

Fig. 2 is a front elevation of a plurality of the ribs.

Fig. 3 is a detail perspective view of the upper extremities of two of the improved ribs shown assembled.

Fig. 4 is a transverse vertical section taken in the plane of the line 4—4, Fig. 1, and illustrating a plurality of ribs and saws in engagement therewith.

The numerals 5 and 6 respectively designate upper and lower or head and foot ends of the ribs 7 which as usual are secured to upper and lower rib rails 8 and 9, as shown by Fig. 1, in relative positions to saws 10 which are adapted as usual to move between the ribs for well known purposes in ginning operations. The upper and lower or head and foot ends 5 and 6 of the ribs have parallel side edges 11 so that when the ribs are assembled in operative position on the rails 8 and 9 tight joints will be formed between the said rib ends and thereby obviate the formation of any crevices or joint openings wherein cotton, trash or other matter may lodge. In the assemblage of ribs as heretofore constructed in connection with rib rails it is not unusual to have open spaces or crevices formed between the adjacent side edges of the secured ends of the ribs, and at the upper ends of the ribs lint cotton lodges and becomes packed in these spaces and fills the same close down and overhangs the saws and a stoppage of the gin is required until this accumulation of cotton and other matter between the attached ends of the ribs is removed in view of the fact that the same if allowed to remain materially interferes with the ginning operation of the saws. Furthermore, the lower ends of ribs as ordinarily constructed and attached have spaces formed between their adjacent edges and trash and undeveloped seeds as well as other matter crowd therein, with material disadvantage in ginning cotton or the movement of the latter within the roll box, and such accumulative tendency of the ribs also results in material delays in ginning operations in view of the time required to remove the accumulations between the attached rib ends. Each rib in the present instance is of equal width throughout its length except at the upper end where a clearance space 12 is formed by dressing off the rib at this point, and the upper wall 13 of this clearance space in each rib has an upward angle or trend rearwardly from the front or face edge of the rib toward the rear edge of the same, as clearly shown by Fig. 1, and the said wall is cut away at an angle, as at 14, so that when the ribs are associated each two ribs will have a well defined clearance opening provided between the upper portions thereof,

as indicated by dotted lines in Fig. 2, and by cutting away the upper walls of the clearance spaces 12 as specified the upper terminals of the spaces 15 between the ribs are given an inverted V-formation, as at 16. In the formation of the clearance spaces 12 the upper portions of the ribs on opposite sides are reduced so as to give them a rearwardly converging contour in cross-section, and when the several ribs are assembled these clearance spaces in a transverse direction assume or are given a rearward divergent contour, as at 17, see Fig. 4. It will also be understood that all of the ribs will be chilled at the point where the saw teeth pass through or between them in order to prevent wear of the ribs. The faces of the ribs 7 are also of the same width from the top to the bottom except the inverted V-terminals 16, as hereinbefore specified. It will also be seen that the rib is increased from the front face toward the rear edge at its upper end at about the point 18, see Figs. 1 and 3, and, furthermore, the front edge of each rib takes a sudden rise or is curved upwardly, as at 19, adjacent to the point where the saws are to pass through the ribs. This latter construction is necessary in view of the fact that the seed are packed down at this point by the float used in the roll box, and this rise has a tendency to deflect the seed upwardly and also loosens them slightly at this point or causes the seed to become dispersed or moved away from a point adjacent to where the saws carry the lint through the ribs. By the formation of the upper receding or upwardly inclined wall 13 and the enlargement between the ribs or the clearance spaces as explained, the lint carried by the saws between the ribs is prevented from contacting or engaging with and hanging upon the upper and side walls of the openings between the ribs where the saws pass through, and the lint cotton is thus allowed to remain intact with the teeth of the saws and the upper portions of the ribs are prevented from becoming choked or clogged with an accumulation of cotton therein, thereby effecting a more reliable operation of the ribs relatively to the saws and avoiding any stoppage or delay in the operation of a gin to clean the ribs as is frequently necessary in rib structures as usually employed in gins.

The main advantage of the improved rib structure as herein explained is that it is impossible for seed that may have been cut by the saw teeth and trash to pass between the ribs and the saws and follow the lint, and at the same time a free action of the saws between the ribs ensues without liability of engagement of the lint cotton carried by the teeth with the ribs. The improved ribs are applicable to all gin structures now commonly used, as the change in the rib structure as specified does not in the least affect the application thereof and cooperation with the usual saw cylinders.

What is claimed is:

1. A gin rib having uniform dimensions throughout the greater portion of its length and having the opposite sides at its upper portion uniformly rearwardly tapered to form saw clearance spaces provided with upper terminal walls or shoulders inclining upwardly in a rearward direction.

2. A gin rib having uniform dimensions throughout the greater portion of its length and having a rearward taper at its upper portion to form saw clearance spaces at opposite sides provided with upper terminal walls or shoulders upwardly and rearwardly inclined, the front corners of said walls or shoulders being cut away at an angle.

3. Gin ribs having upper and lower attaching ends with parallel side edges and of such width that the said side edges will tightly abut when secured in place to prevent the formation of crevices or open joints between said ends, the spaces between the adjacent sides of the ribs being uniform throughout their length except at their upper terminals adjacent to the lower portions of the upper attaching ends where the spaces rearwardly diverge regularly from the front edges of the ribs.

4. Gin ribs having uniform dimensions throughout the greater portion of their lengths with saw spaces between them of uniform contour and equal width, the upper portions of said spaces being given a greater width by increasing the taper of the sides of the ribs toward the rear edges of the latter and providing upwardly and rearwardly inclined top walls to the said upper portions of the spaces.

5. Gin ribs having upper and lower attaching ends with straight sides closely abutted to prevent formation of crevices or open joints, the ribs being of uniform dimensions for a greater portion of their lengths and having saw spaces between them of equal width throughout their length except at their upper terminals where the spaces are increased in width by giving the opposite sides of the ribs a greater rearward convergence.

6. Gin ribs having upper and lower attaching ends closely abutted to avoid open joints, the ribs being of uniform dimensions throughout the greater portion of their lengths and formed with opposite rearward side tapers at their upper portions to provide clearance spaces having top upwardly and rearwardly inclined walls to give said clearance spaces increased dimensions, the saw spaces between the ribs being of uniform width throughout the greater portion of their lengths and having upwardly converging angular terminals at their upper terminals opening into the clearance spaces.

7. Gin ribs having upper and lower closely jointed attaching ends and saw spaces formed between them, the front or face edges of the ribs adjacent to the upper terminals of the saw spaces having forwardly projecting portions at the bases of the upper attaching ends and in advance of the remaining portions of said edges below, said projecting portions tapering off into the upper attaching ends.

8. Gin ribs having saw spaces between them, and rises adjacent to the upper terminals of the saw spaces at the bases of the upper secured ends of the ribs, said rises providing projections which stand in advance of the remaining edges of the ribs.

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

JOHN M. WESTBROOK.

Witnesses:
E. W. DRIPP,
V. D. YOUNG.