May 14, 1940. J. D. RUST 2,200,303

COTTON PICKING MACHINE

Original Filed June 1, 1937

Fig. 1.

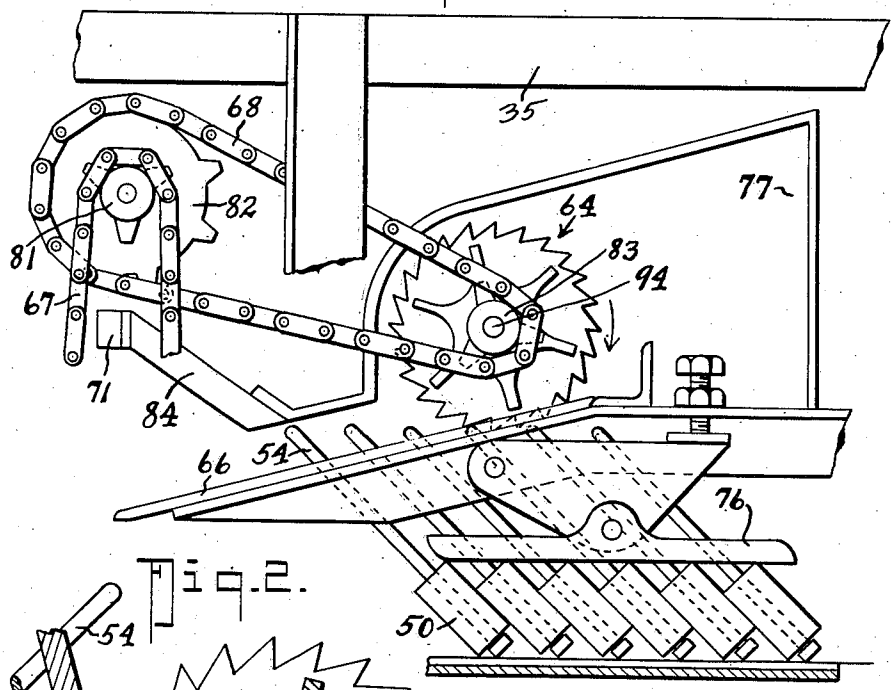


Fig. 2.

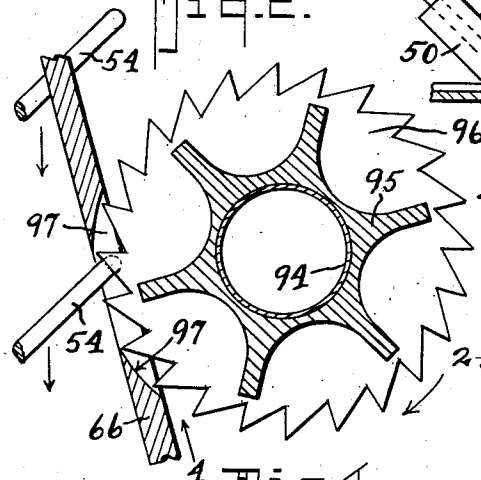


Fig. 3.

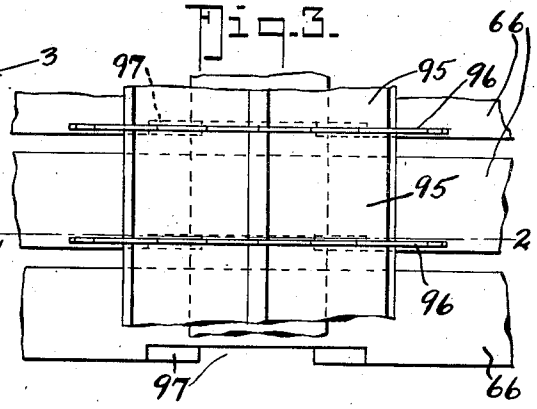
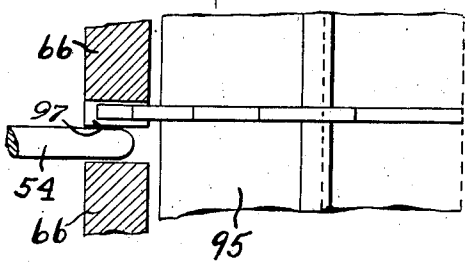


Fig. 4.



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UNITED STATES PATENT OFFICE

2,200,303

COTTON PICKING MACHINE

John D. Rust, Memphis, Tenn.

Application June 1, 1937, Serial No. 145,853
Renewed November 15, 1938

12 Claims. (Cl. 56—42)

My invention relates to certain new and useful improvements in cotton picking machines of the type disclosed in Letters Patent No. 1,894,198, granted January 10, 1933, the present invention embodying certain improvements over the construction disclosed therein and over the construction disclosed in the application of myself and Mack D. Rust, filed June 13, 1935, Ser. No. 26,363.

The object of the present invention is to provide an improved doffer for use in said machines. Experience has shown that there is a tendency for cotton to clog between the stripping bars at the place where the spindles withdraw from the stripping bars. In our application Ser. No. 26,363 aforesaid we proposed to keep the cotton cleaned out of the cracks (spaces between adjacent stripping bars through which the spindles pass) by means of steel pegs which run in the same horizontal planes as the spindles. In practice we found that with this arrangement, in order to clean the cracks at all times, the pegs had to be run so close to the spindles that at times they would strike the spindles. This is of course objectionable for various reasons, one of which is excessive noise and another, the constant wear on the ends of the pegs. It is to overcome this objectionable action that I have devised the present mechanism.

Generically, the present invention provides a set of circular saws which rotate in planes parallel to the planes in which the paths of the spindles are located, the saws projecting into the recesses provided in the stripping bars, the saws runnings in planes located just above the spindles, and overlapping the ends of the spindles without striking the same.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Fig. 1 is a fragmentary top plan view of a portion of a cotton picking machine embodying the present invention.

Fig. 2 is an enlarged detail horizontal section on the line 2—2 of Fig. 3.

Fig. 3 is an elevation looking in the direction of arrow 3 in Fig. 2.

Fig. 4 is a detail elevation looking in the direction of the arrow 4 in Fig. 2, the stripping bars being shown in cross-section where the saw teeth project into the space provided in the lower face of the upper bar.

In the drawing, those parts which are like parts in application Ser. No. 26,363 aforesaid bear the same reference number and are as follows:

35 indicates the frame, 54 the picking spindles, 50 the spindle-carrying slats, 66 the stripping bars, 67 the driving chain, 81 the sprocket held on a counter-shaft, around which chain 67 passes, 82 another sprocket on the counter-shaft which, through chain 68 and sprocket 83, drives the shaft 94 of the doffer 64, 71 the bumper on the upright spindle-tilting board 84, 77 the suction box, and 76 the runner which holds the spindle-carrying slats at the proper angle while the spindles are passing the stripping bars and doffer.

In utilizing the present improvements, the under sides of the stripping bars 66 are recessed, as at 97, to receive the teeth of the circular saws 96 between which saws are located spacer blocks having paddles 95 for throwing off the cotton removed from the stripping bars by the saws 96.

As the spindles with their accumulation of cotton at their tops reach the recessed portions 97 of the bars 66, the cotton will be engaged by the saw teeth, should it not already have been removed by the stripping bars, and will be pulled off the ends of the spindles and thrown into the suction box 77.

From the foregoing description, taken in connection with the accompanying drawing, it is thought the construction, operation and advantages of the invention will be clear to those skilled in the art.

What I claim is:

1. In a cotton picking machine, sets of rotating cotton gathering spindles; a set of stripping bars between which the spindles are drawn to remove cotton from the spindles; a rotary doffer located adjacent said bars and comprising a set of circular saws and spacers, said spacers having paddles located between adjacent saws; and means to rottae said doffer, said doffer operating to remove cotton from between said bars.

2. In a cotton picking machine, sets of rotating cotton gathering spindles; a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, said bars having recesses adjacent the place where the spindles leave the bars; a rotary doffer comprising a set of circular saws and spacers, said spacers having paddles located between adjacent saws, said doffer operating to remove cotton from between

said bars, said saws projecting into said recesses and said paddles terminating short of said stripping bars; and means to rotate said doffer.

3. In a cotton picking machine, sets of rotating cotton gathering spindles; a set of stripping bars between which the spindles are drawn to remove cotton from the spindles; a rotary doffer including a set of circular saws the teeth of which project between adjacent stripping bars and lie in planes adjacent the spindle planes but out of contact with the spindles, and also including spacers between adjacent saws clear of said stripping bars; and means to rotate said doffer.

4. In a cotton picking machine, sets of rotating cotton gathering spindles; a set of stripping bars between which the spindles are drawn to remove cotton from the spindles; a rotary doffer including a set of circular saws the teeth of which project between adjacent stripping bars and lie in planes adjacent the spindle planes but out of contact with the spindles and also including spacers between adjacent saws clear of said stripping bars, said spacers including radial cotton paddles; and means to rotate said doffer.

5. In a cotton picking machine, sets of rotating cotton gathering spindles; a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, said bars having recesses in their lower edges at a place adjacent that where the spindles leave the bars; and a rotary doffer having a set of disks with serrated edges rotating in planes parallel to the planes in which the spindles lie and projecting into said recesses and having spacers provided with paddles between adjacent disks, the paddles terminating short of said stripping bars so as not to engage the ends of the spindles; and means for rotating said doffer.

6. In a cotton picking machine, sets of rotating cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, a rotary doffer including a set of circular saws the teeth of which project between adjacent stripping bars and lie in planes adjacent the spindle planes but out of contact with the spindles, and means to rotate said doffer for removing cotton from between the stripping bars.

7. In a cotton picking machine, sets of rotating cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, a rotary doffer comprising a series of circular saws positioned horizontally on a vertical shaft at intervals corresponding to the spaces between the stripping bars, said doffer being placed adjacent the stripping bars with the saws projecting between the said stripping bars and adjacent the spindles, and means for rotating said doffer for removing the cotton from between the said bars.

8. In a cotton picking machine wherein sets of rotating cotton gathering spindles travel along horizontal planes between adjacent stripping bars, the combination with said stripping bars and spindles of a saw-tooth rotary doffer positioned to remove cotton from between the stripping bars.

9. In a cotton picking machine, sets of rotating cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, a rotary doffer including circular sets of teeth which rotate in planes adjacent the spindle planes, overlapping the ends of the spindles but out of contact with the spindles, and means to rotate said doffer for removing the said cotton from the stripper bars.

10. In a cotton picking machine, sets of rotating approximately smooth surfaced cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove cotton from the spindles, a rotary doffer including circular sets of teeth which rotate in planes adjacent the spindle planes overlapping the ends of the spindles but out of contact with the spindles, and means to rotate said doffer for removing the said cotton from the stripper bars.

11. In a cotton picking machine, sets of rotating cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove the cotton from the spindles, a rotary doffer which includes circularly arranged sets of teeth on a rotating body, the teeth projecting between the stripping bars and lying in a plane different from that in which the spindles lie but adjacent thereto.

12. In a cotton picking machine, sets of rotating cotton gathering spindles, a set of stripping bars between which the spindles are drawn to remove the cotton from the spindles, a rotary doffer which includes circularly arranged sets of teeth on a rotating body, the teeth projecting between the stripping bars and lying in planes above the spindles.

JOHN D. RUST.