

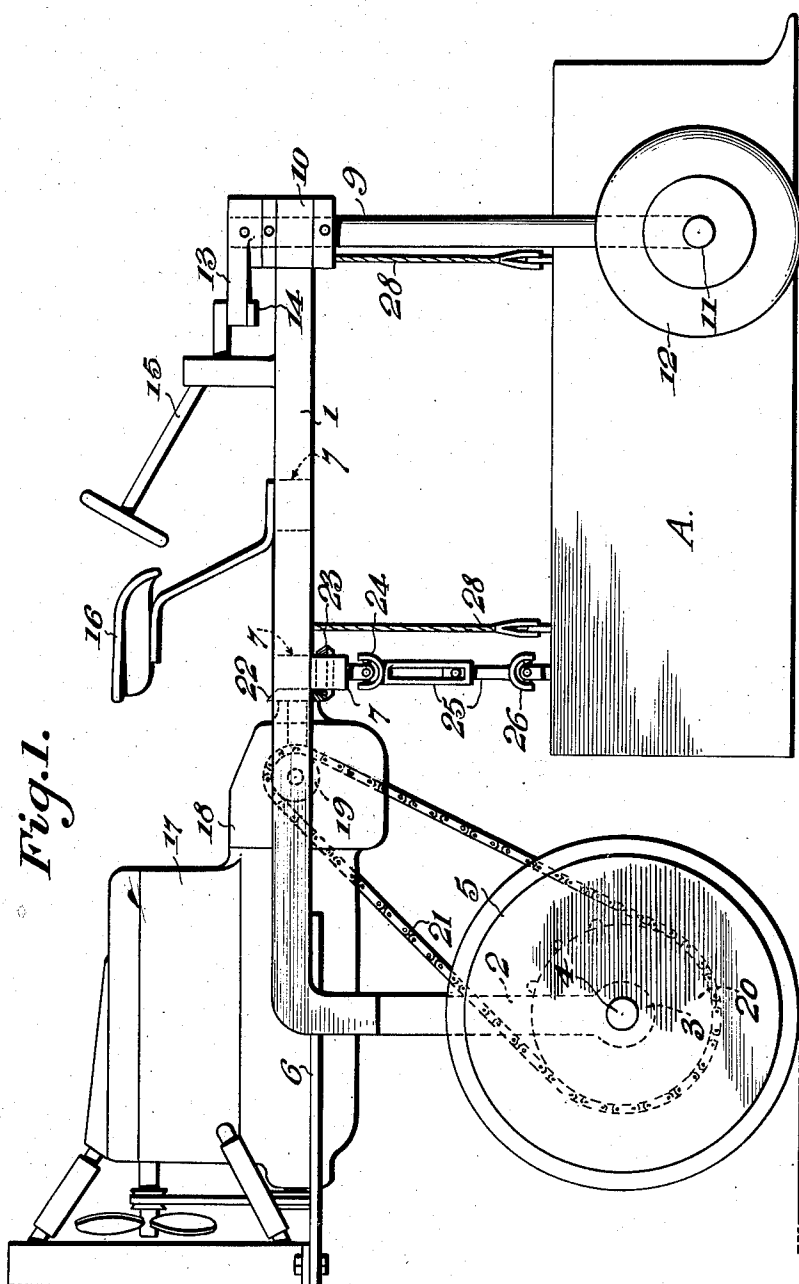
March 16, 1937.

J. D. RUST ET AL
COTTON PICKING MACHINE

2,073,653

Filed Oct. 10, 1935

3 Sheets-Sheet 1



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Fig. 2.

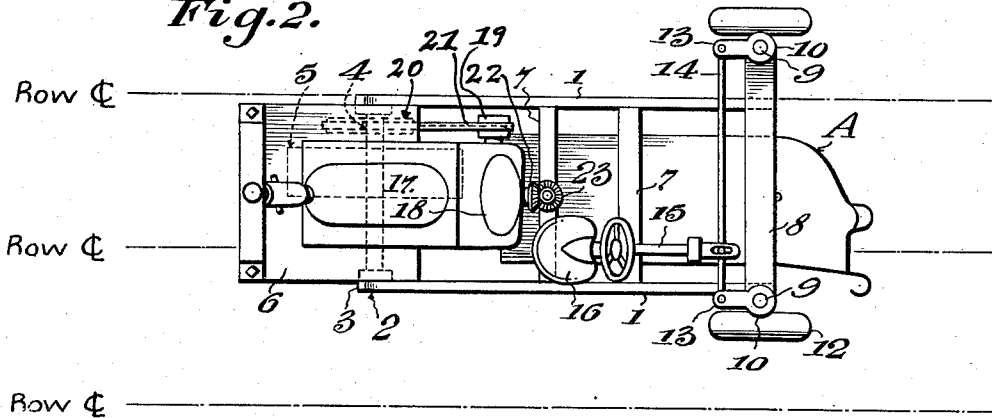
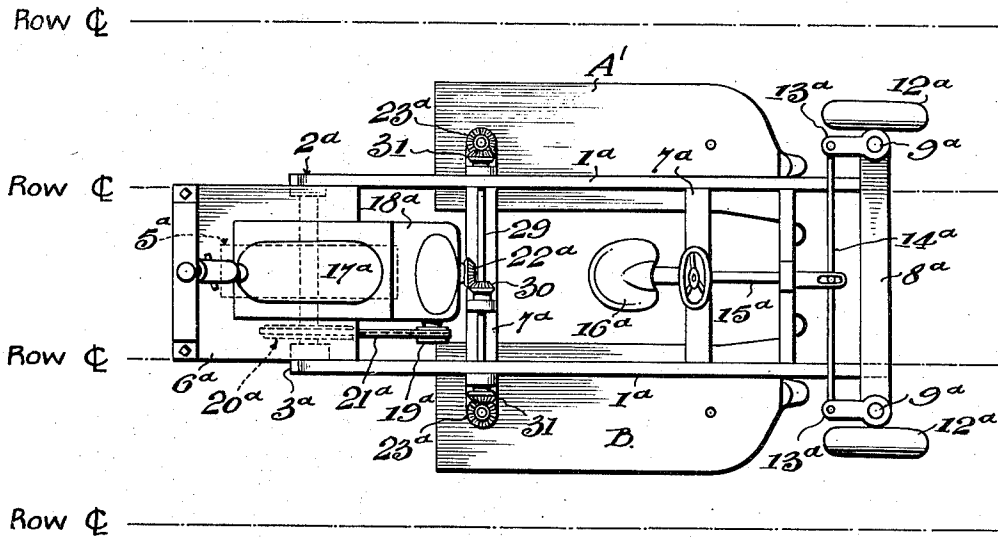


Fig. 3.



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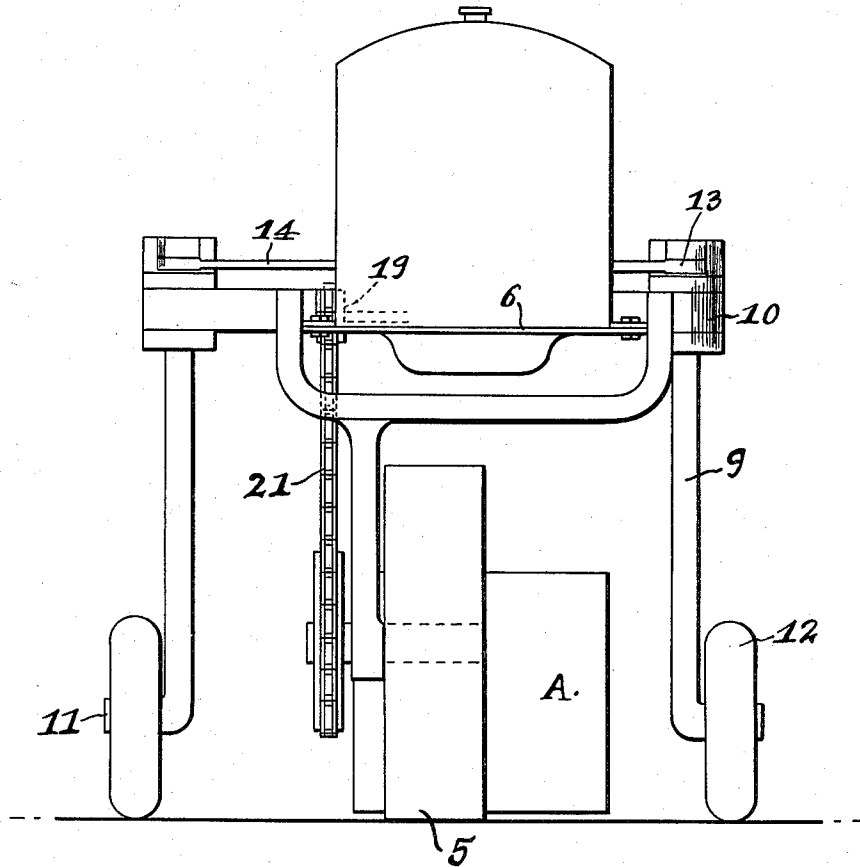


Fig. 4.

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UNITED STATES PATENT OFFICE

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COTTON PICKING MACHINE

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Application October 10, 1935, Serial No. 44,412

4 Claims. (Cl. 56—11)

The present invention relates to cotton picking machines of a type similar to that disclosed in our Patent No. 1,894,198, granted January 10, 1933.

5 An object of the present invention is to provide a self-contained machine that may be propelled and powered by its own power plant, located to the rear of the machine.

10 Another object is to provide a simplified power driven vehicle to carry the picking unit or units.

Another object is to provide a vehicle consisting of a suitable frame supported by a pair of steering wheels at the front and a power driven wheel at the rear, the steering wheels straddling 15 two rows of cotton plants while the driving wheel runs between the said two rows.

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 20 fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevation of a single-unit machine.

Figure 2 is a top plan view thereof.

30 Figure 3 is a top plan view of a two-unit machine.

Figure 4 is a rear elevation of the machine shown in Figures 1 and 2.

In the drawings in which like numerals and letters of reference indicate like parts in all the 35 figures, A and B represent the picking units, the detailed construction of which is immaterial to the present invention, as is also the manner of mounting the same on the carrying frame of the vehicle, since the same may be of the construction disclosed in and/or covered by our said Letters Patent and other applications pending, 40 Ser. Nos. 678,670, 723,423, 733,687, 26,363, for examples.

The picking unit or units may be carried by 45 the vehicle in any suitable manner, as for example by cables and sheaves, as disclosed in our application Ser. No. 26,363, aforementioned.

50 The vehicle comprises a carrying frame of longitudinal (preferably) channel irons 1 suitably cross braced at 7 and 8 and having member 2 with bearing ends 3 for the shaft 4 of the traction wheel (preferably a bull-wheel) 5.

A plate or sub-frame 6 is suitably secured to 55 the frame bars or irons 1 and carries the power

plant consisting of the usual motor 17, etc., and transmission mechanism 18. The transmission mechanism (not shown in detail, but which may be of any suitable construction) includes a driving sprocket 19 over which a chain 21 passes, the chain also passing over the driven sprocket 20 for driving the traction wheel 5.

The carrying frame is supported at the front end by the steering wheels 12 carried on spindles 11 having upright shafts 9 held to turn in suitable bearings 10. A suitable steering mechanism 13—14—15 connects the shafts 9 and serves to turn the same when actuated by the operator who sits on a suitably located seat 16. The steering mechanism is the well known type commonly 15 used in automobile and tractor engineering and, per se, is not a part of the present invention.

Power for driving the picking unit or units is obtained from the bevel gear 22 of the transmission mechanism. In the single-unit machine (see Figures 1 and 2) the gear 22 meshes with a 20 bevel gear 23 on a stub shaft having a universal joint connection 24 to a telescopic driving shaft 25 which, in turn, has a universal joint connection 26 with a main shaft 27 of the picking unit A.

25 The means for suspending the picking unit A from the carrying frame is designated generally by the reference number 28.

In the second embodiment of our invention, shown in Figure 3, those parts which correspond 30 to like parts in Figures 1, 2 and 4 bear the same reference character, plus the index letter a, so a further description thereof will not, here, be necessary.

When two units A and B are mounted on the 35 carrying frame, the frame is extended forwardly sufficiently to locate the steering wheels 12^a in front of the units A—B and, if desired, the operator's seat 16^a and steering wheel post 15^a may be located centrally.

40 Power from the driving gear 22^a is given to a countershaft 29 through a gear 30 and is transmitted through gears 31 and the respective gears 23^a, of the universal-joint-telescopic-shaft driving connection, to the main shafts of the two 45 units.

The center line of the rows of cotton plants are indicated by dot and dash lines.

As will be noted particularly from Figures 1 and 4, the traction wheel 5 is mounted on one 50 side of the member 2, while the sprocket 20 is mounted on the other side. This enables the wheel 5 to be removed and replaced conveniently when necessary or desirable without disturbing the sprocket and chain connection. This feature 55

is particularly desirable when a rubber tired traction wheel is used, since in case of a puncture the machine may be jacked up under the support 2 and the tire changed, or the wheel may be 5 changed, as found desirable.

Operation

As the machine is driven through the field the steering wheels 12 straddle two rows, while the 10 traction wheel 5 runs between the two rows, the unit A picking cotton from one row (or when unit B is also used, cotton is picked from both rows).

The cotton stalks enter the picking mechanism 15 through the throat thereof. The action of the picking units themselves is now well known and it therefore is not necessary to describe the same in this specification.

The structures disclosed in this application 20 are the preferred ones, but we wish it to be understood that modifications, alterations in design and proportions of parts, and some changes in the details of construction may be made by those skilled in the art without departing from the 25 spirit of the invention.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction, operation and 30 advantages of our invention, together with its novel features, will be clear to those skilled in the art.

What we claim is:

1. A cotton picking machine comprising a pair 35 of picking units carried by a vehicle to pick cotton from two adjacent rows, said vehicle comprising a suitable frame, a pair of steering wheels supporting the front of the frame and spaced to straddle two rows of cotton plants, a traction wheel supporting the rear of said frame, a power 40 plant carried by said frame, and power transmitting connections between said power plant and said traction wheel and said picking unit.

2. In a cotton picking machine, wherein one 45 or more complete picking units are supported and conveyed along the rows of cotton plants; a carrying vehicle for said unit or units, which vehicle

comprises a longitudinally disposed horizontal elevated frame having bearings at its front end, spindle-carrying upright shafts journaled in said bearings, steering wheels mounted on the 5 spindles of said shafts, steering mechanism mounted on said frame and cooperatively connected to said upright shafts, said frame including upright supports at the rear, a traction wheel 10 carried by the rear supports, means for mounting the picking unit or units beneath the elevated frame, said steering wheels being spaced to straddle two rows of plants while said traction 15 wheel runs between said two rows of plants, and means to transmit power from said power plant to said traction wheel and to the picking unit or units.

3. In a cotton picking machine, a frame comprising an elevated portion, a pair of steering 20 wheels for supporting the front portion of said frame, spaced apart to straddle two rows of plants, a single bull-wheel for supporting the frame at the rear, a power plant carried by said frame, steering mechanism carried by said frame and connected operatively with said steering 25 wheels, a cotton picking unit hung from the elevated portion of said frame intermediate the front and back ends thereof, and power transmitting connections between said power plant and said bull-wheel and the picking mechanism 30 for purposes described.

4. A cotton picking machine comprising a picking unit carried by a vehicle including an elevated frame, a pair of steering wheels mounted 35 at the front of the frame and spaced to straddle two rows of plants, said frame including a rear support, a shaft journaled in a bearing in said rear support, a traction wheel mounted on said shaft at one side of said support, a power plant 40 carried by said vehicle and driving connections between said power plant and said shaft, said driving connections lying to the side of said support opposite that on which the traction wheel is located.

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