

1,349,435.

2 SHEETS—SHEET 1.



Inventor.
Clemma R. Raney,
By *Har. E. Lord*
Atty.

C. R. RANEY.
BUNDLE CARRIER.
APPLICATION FILED JAN. 31, 1916.

Patented Aug. 10, 1920.

2 SHEETS—SHEET 2.

1,349,435

Fig. 3.

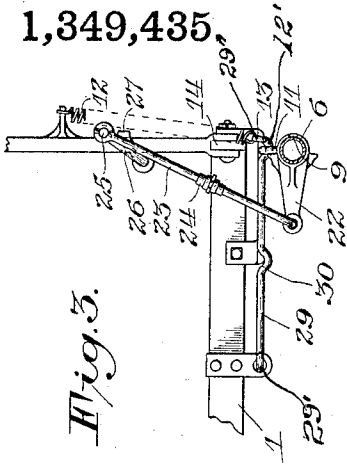


Fig. 4.

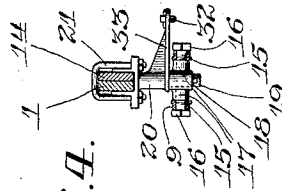
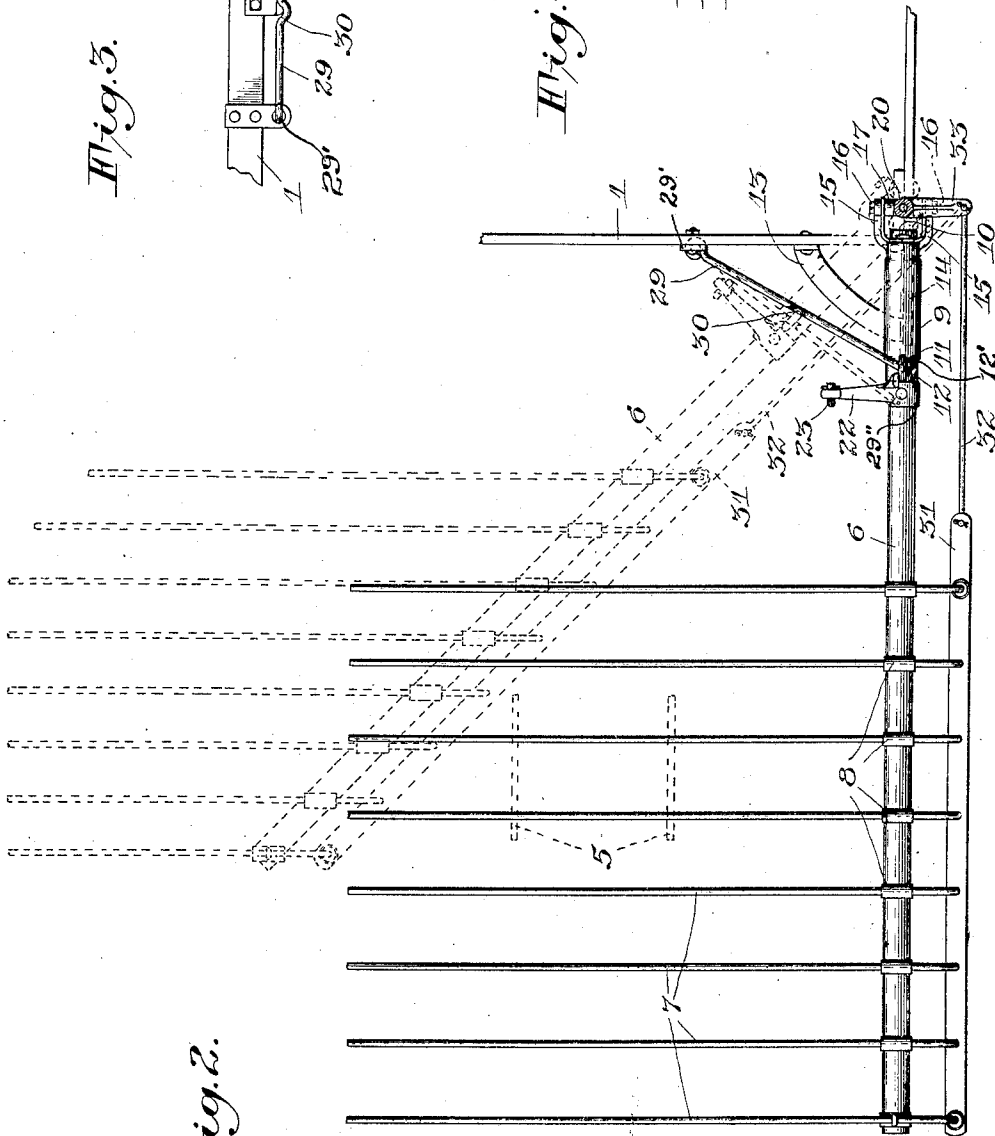


Fig. 2.



Inventor:
Clemma R. Raney,
By *Chas. E. Lusk*
Atty.

UNITED STATES PATENT OFFICE.

CLEMMMA R. RANEY, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
INTERNATIONAL HARVESTER COMPANY, A CORPORATION OF NEW JERSEY.

BUNDLE-CARRIER.

1,349,435.

Specification of Letters Patent.

Patented Aug. 10, 1920.

Application filed January 31, 1916. Serial No. 75,361.

To all whom it may concern:

Be it known that I, CLEMMMA R. RANEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bundle-Carriers, of which the following is a full, clear, and exact specification.

My invention relates to bundle carriers. Great difficulty has heretofore been experienced in obtaining the complete discharge of the bundles from the bundle carrier of a harvester when the bundles fall unevenly thereon or the ground is uneven or rolling, certain of the sheaves frequently remaining upon the carrier and being dragged along thereby in such a manner as to scatter the sheaves in the field, thresh out the grain and occasionally require the operator to stop the machine to clear the carrier.

My invention has for its object to provide an improved bundle carrier which is adapted to deliver the bundles therefrom upon the ground in a compact group with their butts in substantial alinement under all conditions. A more specific object of my invention is to provide a bundle carrier of such a construction that it is adapted to use on rolling land or hillsides and by which the bundles will be deposited evenly upon the ground and without dragging irrespective of the ground slope. A further object of my invention is to improve and simplify the construction of bundle carriers. I attain these objects by providing an improved bundle carrier in which the bundle carrying portion has a rotating and dropping movement enabling it to conform to the surface of the ground and in which the sheaves on the carrier are removed therefrom when the same is in its delivery position by the contact of the stubble in the field with substantially the whole length of the sheaves.

In order that my invention may be clearly and fully disclosed, I have illustrated one embodiment which the same may assume in practice in the accompanying drawings, in which—

Figure 1 is a partial front view of a binder equipped with my improvement;

Fig. 2 is a plan view of the bundle carrier mechanism shown in Fig. 1;

Fig. 3 is a detail side elevation, partially in section, of the mechanism taken substantially on line 3—3 of Fig. 1 looking in the direction of the arrows;

Fig. 4 is a detail view, partially in section, taken on line 4—4 of Fig. 1 looking in the direction of the arrows;

Fig. 5 is a detail view of the tine holding member and tines showing the latter in a plurality of positions.

The binder shown is of standard construction, including a frame 1 mounted upon a main wheel 2 and a deck 3, through which the usual needle 4 moves and from which the usual sheaf discharging mechanism 5 discharges the bound sheaves. As the binder and the mechanism for operating these last two elements are of standard construction, and *per se* do not form a part of the present invention, the same need not be herein more specifically described.

In my improved construction a laterally extending bundle carrier support or pipe 6 is pivotally connected to the harvester frame at a point beneath the deck 3. This pipe 6 carries on its stubbleward end a plurality of longitudinally extending, transversely spaced tines 7, which are attached to the pipe at points adjacent their front ends in such a manner as to rotate therewith and move in a vertical plane and at the same time be free to turn relatively thereto in a horizontal plane, sleeved pin and cotter connections 8 being used, for instance, as the attaching means. As shown in Fig. 5, each of these tines extends downwardly and rearwardly as shown at 7' to a point in rear of and a substantial distance beneath the pipe and there is extended angularly upward and rearward as shown at 8' to form a sheaf supporting surface, the downwardly and rearwardly inclined portions 7' of the tines being engageable with the butts of the sheaves discharged thereon by the discharging mechanism 5, while the upwardly and rearwardly inclined portions 8' are engageable with the heads of the sheaves.

The inner end of the pipe 6 is rotatably mounted in a sleeve member 9 and held against withdrawal therefrom by a pin 10. This sleeve 9 is provided with an eye 11 on the upper surface of its stubbleward end and is resiliently supported on the frame

in the following manner: In its normal sheaf receiving position the eye 11 rests in a notched end-portion 12' of a link 29 pivoted at 29' to the frame. A spring 12 is connected at one end to the frame of the machine, and at its opposite end to an eye 29'' formed on the end of link 29, thus holding the sleeve against the under surface of an underlying guide plate 13 connected between the side sill member of the frame and an extension 14 on the front sill member. By supporting the bundle carrier, as above described, a connection is provided whereby the carrier may "give" or slide rearwardly on rod 29 about its vertical pivot should the carrier strike some obstruction. As shown, the sleeve 9 is provided at its grainward end with spaced transversely extending arms 15 pivoted on transverse pivots on oppositely extending, longitudinally disposed bolts 16 threaded into suitable extensions 17 on a rotatable sleeve member 18. This sleeve member 18 is in turn pivotally mounted on a vertically disposed stud 19, preferably formed on a depending bracket 20, which is fixed to the front sill member of the frame 1 by a suitable U-bolt connection 21. Fixed to the pipe 6 at the stubbleward end of this sleeve member 9 is a rearwardly extending crank or arm 22 normally engageable with a suitable lug on the sleeve, such as the eye 11. This arm 22 is pivotally connected through a vertically disposed link 23, adjustable as to length by adjusting means 24, with a stubblewardly extending portion 25 on a crank 26 journaled on the frame 1 and movable to the upstanding position shown in Fig. 1, wherein it is substantially over its center and rests against a lug 27 on the frame, the pipe 6 being held up by its link connections and the spring 12 when the crank is in this position in its bundle receiving position shown in that figure. As shown, this crank is operable to release these link connections by suitable means; as, for instance, the usual foot pedal connections 28 on the frame operable from the operator's seat. As above described in the specification, the sleeve 9 is slidably mounted on link 29, and may be folded thereon for transportation to the dotted line position shown in Fig. 2.

In order that the bundle carrier support 6 may be held in inoperative or folded position, a supplemental notch 30 is provided on link 29. From the above description it will be seen that the upward force exerted by spring 12 on link 29 forces the notch 30 into firm engagement with the end portion of the link 29, thereby securely retaining the bundle carrier in its folded position. Obviously, in order to prevent conflict of the tines 7 with the binder frame when the pipe is so moved, these tines must

be thrown laterally, as shown in that figure, this being accomplished by means of a transversely extending link 31 pivoted to the front end of each tine 7, and pivotally connected through a second transversely extending link 32 with a rigid forwardly extending arm 33 carried on the frame and preferably formed integral with the bracket 20.

In considering the operation of the device let us assume that the parts are in their bundle receiving position shown in Fig. 1, wherein the bundles delivered by the sheaf discharging mechanism may fall upon the tines 7, which then occupy the position shown in that figure and also illustrated in side elevation in full lines in Fig. 5. When a sufficient number of bundles has accumulated upon the carrier, the crank 26 is released by suitable means; as, for instance, by the usual foot pedal, an initial impulse being given to the same so as to throw it away from its stop 27 and release the link connections supporting the pipe 6. Obviously, the weight of the bundles on the tines 7 will then depress the latter and rock the pipe 6 in the sleeve 9, the tines moving from the full line position shown in Fig. 5 to the dotted line position shown in that figure so that the heads of the sheaves engage the ground. At the same time, this weight will cause the outer end of the pipe 6 to move downward and about its pivot members 16 in a vertical plane in such a manner as to enable the pipe to come into such relation to the ground that the stubble thereon may pass underneath the same without contacting therewith and yet engage with a rearwardly sweeping effect substantially the whole length of the bundles which are carried upon the tines and are disposed below the pipe. Thus, the stubble is enabled to clean the sheaves from the tines very speedily and surely. Obviously, as soon as the sheaves are thus swept from the tines, the carrier and its connected mechanism will be automatically returned to normal position by the spring 12, since the latter is so connected to the sleeve 9 as both to raise the pipe 6 and to rotate it in its bearings in the sleeve 9. It will also be obvious that the bundle carrier may be folded into the inoperative position shown in Fig. 2 by simply swinging the same bodily to the position shown in dotted lines in that figure, wherein the eye 11 engages with the notch 30 in the hook 29, and the link 31, through its connection to the link 32 and the arm 33 on the frame, during this movement causes the tines 7 to be swung about their pivots on the member 6 in such a manner as to prevent contact of those tines with the binder frame. When the carrier is in inoperative position it may be returned to its working position by the operator pressing his foot on the treadle.

In the operation of my improved construction it will be noted that bundles are delivered upon the carrier with their butts in substantial alinement and that the same are still disposed in that relation when delivered by the carrier upon the ground, since the carrier, through its connection with the frame, is enabled to approximate the slope of the ground whether the machine is going up or down hill or whether traveling along a side hill, and the stubble on the ground is enabled to engage the sheaves substantially throughout their length and sweep these sheaves from the carrier as the machine moves forward in the field. Obviously, through such a construction, no difficulty will be experienced with the dragging of the sheaves, and since the stubble acts uniformly upon the sheaves at all points along the length of the pipe, the entire load of sheaves will be delivered in a compact group upon the ground.

While I have in this application specifically described one embodiment which my invention may assume in practice, it is, of course, to be understood that this form of the same is used for purposes of illustration and that the invention may be embodied in various other constructions and arrangement of parts without departing from its spirit, it being my intention to include all such modifications within the scope of the appended claims.

What I claim as new is:

1. In combination, a frame, a laterally extending bundle carrier support, bundle carrying means mounted on said support, said support being pivoted to said frame and movable downwardly from its normal sheaf receiving position in a vertical plane at right angles to the line of draft.

2. In combination, a frame, a laterally extending bundle carrier support, bundle carrying means carried on said support, said support being operatively connected to said frame for movement on its longitudinal axis, and also downwardly from its normal sheaf receiving position in a vertical plane at right angles to the line of draft.

3. In combination, a frame, a laterally extending tine support pivoted thereto on a horizontal pivot parallel to the line of draft, and movable downwardly on said pivot from its normal sheaf receiving position, and longitudinally disposed sheaf carrying tines mounted on said support and extending rearward therefrom, said support being also mounted for rocking movement on its longitudinal axis.

4. In combination, a frame, a laterally extending tine support pivoted at one end thereto on a horizontal pivot parallel to the line of draft and movable downwardly on its pivot to discharge the bundles, longitudinally disposed sheaf carrying tines mounted

on said support and projecting therefrom, and releasable means normally holding said support in elevated sheaf receiving position.

5. In combination, a frame, a laterally extending tine support pivoted thereto on a horizontal pivot parallel to the line of draft and movable about said pivot at right angles to the line of draft, longitudinally disposed tines on said support, releasable operative connections normally holding said support in elevated position, and means for automatically returning said support to normal position.

6. In combination, a frame, a laterally extending tine support pivoted thereon for movement in a vertical plane, longitudinally disposed tines on said support, releasable operative connections normally holding said support in elevated position, and yielding supporting means operatively connected between said support and said frame.

7. In combination, a frame, a laterally extending bundle carrier support thereon, bundle carrying means carried on said support, and operative connections between said frame and said support whereby the latter may move downwardly from its normal sheaf receiving position in a vertical plane independently of said frame and perpendicular to the line of draft and rise and fall in conformance with the surface of the ground.

8. In combination, a frame, a laterally extending bundle carrier support pivoted thereon for movement in a vertical plane, bundle carrying means carried on said support, releasable means for maintaining said support in elevated position on said frame, and operative connections between said frame and said support whereby the weight of the grain may rock said support and lower the same toward the ground when said support is released.

9. In combination, a frame, a laterally extending bundle carrier support pivoted thereon for movement in a vertical plane, bundle carrying means carried on said support, manually controlled means normally holding said support in predetermined elevated position, and operative connections between said frame and said support whereby when said support is released the weight of the grain may rock said support and lower the same toward the ground.

10. In combination, a frame, a rocking laterally extending support pivoted thereon on a horizontal pivot parallel with the line of draft, a plurality of longitudinally extending tines carried on said support having downwardly extending portions in rear thereof engageable with the butts of the sheaves, and upwardly inclined portions engageable with the bodies of the sheaves.

11. In combination, a frame, a bundle carrier support pivoted thereto for movement in a vertical plane perpendicular to the line

of draft and extending laterally therefrom, longitudinally disposed bundle carrying tines on said support, and means whereby said support may be rotated on its longitudinal axis and have its tine carrying portion simultaneously moved downward toward the ground by the grain on said tines.

12. In combination, a frame, a rocking laterally extending support pivoted thereon for movement in a vertical plane perpendicular to the line of draft, longitudinally extending tines carried on said support having downwardly extending portions in rear thereof engageable with the butts of the sheaves and longitudinally disposed portions engageable with the bodies of the sheaves, and yielding supporting means between said support and said frame.

13. In combination, a frame, a laterally extending sleeve member pivoted thereon on a horizontal pivot, a laterally extending bundle carrier support rotatably mounted in said sleeve, bundle carrying means carried on said support, and means connected between said sleeve and said frame normally maintaining said support in elevated position.

14. In combination, a frame, a laterally extending sleeve member pivoted thereon on a horizontal pivot, a laterally extending bundle carrier support rotatably mounted in said sleeve, bundle carrying means carried on said support, and means releasable by an operator connected between said sleeve and said frame and normally maintaining said support in elevated position.

15. In combination, a frame, a laterally extending sleeve member pivoted thereon on a horizontal pivot, a laterally extending bundle carrier support rotatably mounted in said sleeve, bundle carrying means carried on said support, and link and crank connections controllable by an operator on said frame connected between said sleeve and said frame and normally maintaining said support in elevated position.

16. In combination, a frame, a laterally extending sleeve member pivoted thereon on a horizontal pivot, a laterally extending bundle carrier support rotatably mounted in said sleeve, bundle carrying means carried on said support, means releasable by an operator connected between said sleeve and said frame and normally maintaining said support in elevated position, and a resilient connection between said sleeve and frame.

17. In combination, a frame, a laterally extending bundle carrier support pivoted thereon for movement in a horizontal plane, and a link pivotally connected to said frame and slidably connected to said support, said link being provided with a notch for retaining said support in position when the same has been folded in a horizontal plane.

18. In combination, a frame, a member carried thereon having a vertically disposed stud, a bracket member having a sleeve portion rotatable on said stud, a sleeve member pivoted on said bracket on a pivot disposed at right angles to said stud, a bundle carrier support journaled in said sleeve member, bundle carrying means carried by said support, and a yielding connection between said sleeve member and said frame.

19. In combination, a frame, a bracket having a longitudinally extending arm and a vertically disposed stud beneath said arm, means for attaching said bracket to said frame, a member having a sleeve portion journaled on said stud, a laterally extending bundle carrier support attached to said sleeve member and movable therewith about said stud as a pivot, bundle carrier tines pivotally attached to said support at points intermediate their ends, and link connections between the front ends of said tines and the arm on said bracket.

20. In combination, a frame, a laterally extending bundle carrier support pivoted thereto and rotatable about a transverse axis, bundle carrier members carried on said support, a resilient connection between said support and said frame, an arm member extending laterally from said support, a crank journaled on said frame and rotatable into a predetermined position, operative connections between said crank and arm member holding said support in elevated position when said crank is in said predetermined position, and means for turning said crank and thereby releasing said support.

21. In combination, a frame, a laterally extending bundle carrier support pivoted thereon, bundle carrier means mounted on said support, a member for limiting the movement of said support about its pivot, said member having means for yieldingly retaining said support in a plurality of positions of adjustment.

22. In combination, a frame, a laterally extending bundle carrier support pivoted on said frame for movement downwardly from its normal position, and means engaging said support for limiting the pivotal movement of said support.

23. In combination, a frame, a laterally extending bundle carrier support pivoted on said frame for movement in vertical and horizontal planes, and means carried by said frame and engaging said support for limiting the forward movement of said support.

24. In combination, a frame, a laterally extending bundle carrier support pivoted on said frame for movement in vertical and horizontal planes, and resilient means carried by said frame and releasably engaging said support for limiting the pivotal movement of said support.

25. In combination, a frame, a laterally

extending bundle carrier support pivoted on said frame for movement in vertical and horizontal planes, and a link pivoted to said frame and engaging said support for limiting the pivotal movement of said support in said horizontal plane.

26. In combination, a frame, a laterally extending bundle carrier support pivoted on said frame for movement in vertical and horizontal planes, a link pivoted to said frame and engaging said support for limiting the pivotal movement of said support,

and resilient means connecting said link with said frame.

27. In combination, a frame, a laterally extending bundle carrier support pivoted on said frame for movement in vertical and horizontal planes, a link pivoted to said frame, and having a plurality of off-set portions for engaging and retaining said support in a plurality of positions of adjustment.

In testimony whereof I affix my signature.

CLEMM R. RANEY.