A. ANDERSON.
BUNDLE CARRYING ATTACHMENT FOR HARVESTERS.
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909,855.
2 SHEETS-SHEET 1.

Fig. 1.

Fig. 2.

Witnesses.
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BUNDLE-CARRYING ATTACHMENT FOR HARVESTERS.

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To all whom it may concern:

Be it known that I, ALBERT ANDERSON, a citizen of the United States, residing at Doyon, in the county of Ramsey and State of North Dakota, have invented certain new and useful Improvements in Bundle-Carrying Attachments for Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved bundle carrier for harvesters; and to this end it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

This improved bundle carrier is especially adapted for use as an attachment for harvesters commonly known as push binders, such, for instance, as the McCormick, the Deering, the Acme, the Johnston, and various other well known makes, all of which employ twine binders.

The improved bundle carrier comprises a supporting frame suitably carried from the harvester frame, continuously driven endless bundle conveyers, and a vertically movable bundle supporting table or deck, which latter, while the bundles are being accumulated therein, is supported in its uppermost position so as to hold the bundles free from the action of the conveyers, but which, after a sufficient number of bundles have been accumulated, either automatically, by foot, or by hand, is lowered so as to bring the bundle conveyers into action on the bundles and thereby discharge the bundles from said table.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view in side elevation showing, diagrammatically, the binder supporting end of the harvester and showing my improved bundle carrier applied thereto. Fig. 2 is a vertical section taken through the bundle carrier on the line A-A of Fig. 3. Fig. 3 is a plan view of the bundle carrier removed from working position; and Fig. 4 is an end elevation of the said bundle carrier.

Of the parts of the harvester it is only necessary, for the purposes of this case, to particularly note the harvester frame 1, the elevator structure 2, the binder 3, the binder deck 4, and the shaft 5, which shaft is driven in the usual way from the bull-wheel (not shown) of the harvester and from which both the binder and the sickle are driven through the usual connections (not shown).

The frame of the bundle carrier is made up of a pair of laterally spaced outside beams 6 that are rigidly connected by transverse tie boards 7 and 8. The inner ends of the beams 6 are rigidly secured to the outer ends of strong metal bars 9, the inner ends of which are rigidly secured to the binder frame 1, and the intermediate portions of which are preferably tied to the sides of the elevator structure 2, by means of brace straps 10. Upwardly projecting guard boards 11 are rigidly secured to the side beams 6. Extending transversely of the bundle carrier frame and journaling in suitable bearings, respectively in the inner and outer end portions of the side beams 6, are parallel counter-shafts 12 and 13. These shafts 12 and 13 are provided, respectively, with sprockets 14 and 15 that are aligned in pairs and over which pairs of sprockets sprocket chains 16 are arranged to run. Certain of the links of these sprocket chains 16 are provided, at suitable intervals, with projecting bundle engaging teeth 17.

At one end and the counter-shaft 19 is provided with a sprocket 18, over which and which a sprocket 19 on the binder and sickle driving shaft 5 runs a sprocket chain 20 which serves to impart continuous movement to the bundle conveying sprocket chains or link belts 16, under the advance movement of the machine.

The table or deck of the bundle carrier onto which the bundles are primarily discharged from the binder is preferably made up of a multiplicity of parallel bars 21 rigidly connected by tie bolts 22 and, as shown, arranged in three groups, one group located between the chain 16 and the other two groups being located one outside of each chain.

To connect the three groups of these bars 21 for vertical movements as an entirety, they are supported by a multiplicity of parallel obliquely set arms 23, the upper ends of which arms are pivotally connected to the tie bolts 22, and the lower ends of which arms are rigidly secured in two series to a...
pair of transversely extended rock shafts 24, the ends of which are suitably mounted in the sue beams 6. The inner rock shaft 24, at one end, is provided with a deputing arm 20 that is connected by a quite spring coated spring 26 to an anchor bracket 21 rigidly secured to the adjacent beam 6. The arm 25 has a series of perforations which enable the spring to be connected thereato at different points, so as to vary the effective force of the spring thereon. The said spring exerts a force which normally holds the bars 21 of the bundle supporting table considerably above the upper teeth 17 of the conveying chain 16, so that the bundles supported by said table will not be engaged or acted upon by the said teeth. The outward movement of the arm 25 and, hence, the upward movements of the bars 21, are limited by a stop 28 rigidly secured to the forward beam 6 and engageable with the said arm 25, as shown in Fig. 1.

When a number of bundles have been accumulated on the upwardly held receiving table of the bundle carrier, sufficient to overcome the force of the spring 26, the said table will lower, as shown by dotted lines in Fig. 2, and the teeth 17 of the continuously driven conveyor chain 16 will then act upon the accumulated bundles and quickly discharge the same off from the outer end of the said table. As soon as the table has been relieved from the weight of the discharged bundles it will, of course, be thrown back or upward to its normal position, by the spring 26.

In some cases an automatic discharging action may not be desired and, hence, I have shown a trip rod 29 connected to the lower end of the arm 25. This trip rod 29, or other suitable connections therefrom, may be extended to any suitable point; as, for instance, to a point where it may be reached by the driver on the customary seat of the machine. By means of this connection, accumulated bundles may be discharged at any desired time, at the will of the operator.

The bundle carrier above described is of comparatively small cost, will carry quite a large number of bundles, will quickly discharge the bundles, and is generally satisfactory in its operation as a bundle carrier.

What I claim is:

1. A bundle carrier comprising a driven bundle conveyor, a bundle supporting table, and yielding means normally supporting said table in a position to hold the bundles out of the range of action of said conveyor, but movable to subject accumulated bundles to the discharging action of said conveyor, substantially as described.

2. In a bundle carrier, the combination with continuously driven endless bundle conveyors, of a bundle supporting table, and yielding means normally supporting said table in a position to hold the accumulated bundles out of the range of action of said conveyor, but having a downward movement to subject the accumulated bundles to the discharging action of said conveyor, substantially as described.

3. In a bundle carrier, the combination with a continuously driven bundle conveyor and a bundle supporting table, of yielding means normally holding said table in an elevated position so as to hold the bundles out of the range of action of said conveyor, but which yielding means, under predetermined weight of accumulated bundles, will permit said table to subject the accumulated bundles to the discharging action of said conveyor, substantially as described.

4. In a bundle carrier, the combination with a suitable supporting frame, of a pair of continuously driven sprocket-equipped shafts carried thereby, tooth equipped sprocket chains running over said sprockets and continuously driven therefrom, a bundle supporting table, a pair of rock shafts having parallel arms pivotally connected to and supporting said table for vertical movements, and yielding means operative through said arm equipped rock shafts to normally hold said table in an elevated position, to hold the bundles out of the range of action of said chains, and for dropping said table to subject the accumulated bundles to the discharging action of said chains, substantially as described.

5. In a bundle carrier, the combination with a suitable supporting frame, a pair of continuously driven sprocket-equipped shafts carried by said frame, tooth-equipped chains running over said sprockets, a skeleton bundle supporting table, a pair of rock shafts having parallel arms connected to and supporting said table, and a spring acting on said table through said arm equipped rock shafts and exerting a force yieldingly supporting said table in a position to hold the accumulated bundles out of the range of action of said tooth equipped chains, but which spring, under the predetermined weight of the accumulated bundles, will yield and permit said table to lower and subject the bundles to the discharging action of said tooth equipped chains, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT ANDERSON.

Witnesses:

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W. P. REBILLARD.