(No Model.) 2 Sheets—Sheet 1.

H. W. VIETMEYER.

BUNDLE CARRIER.

No. 386,171. Patented July 17, 1888.

Fig. 1.

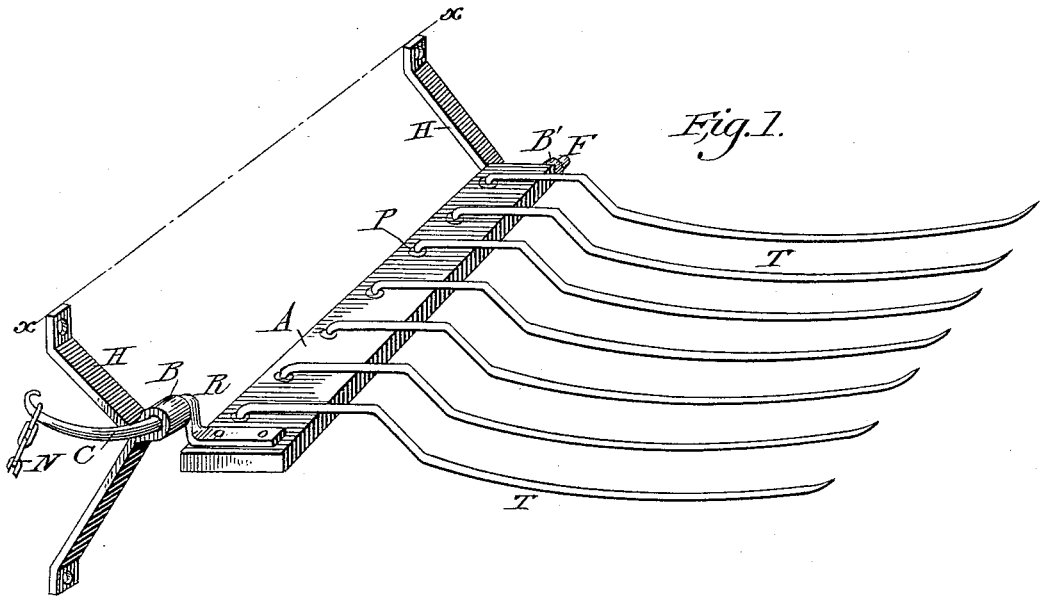
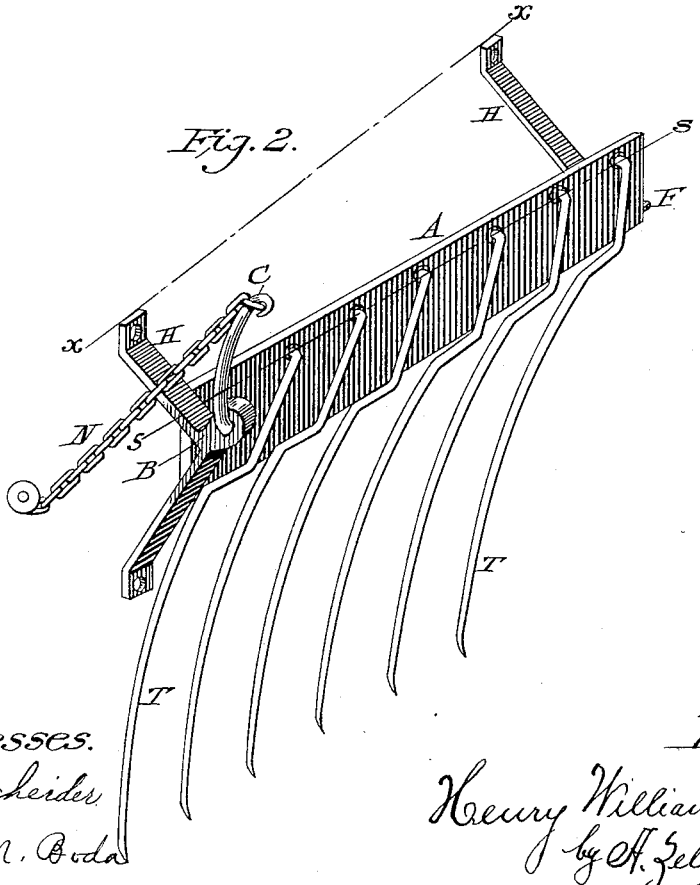


Fig. 2.



Witnesses.
P. Lorscheider
Lue M. Boda

Inventor.
Henry William Vietmeyer,
by A. Zellar Boda
his Atty.

(No Model.) 2 Sheets—Sheet 2.

H. W. VIETMEYER.

BUNDLE CARRIER.

No. 386,171. Patented July 17, 1888.

Fig. 3.

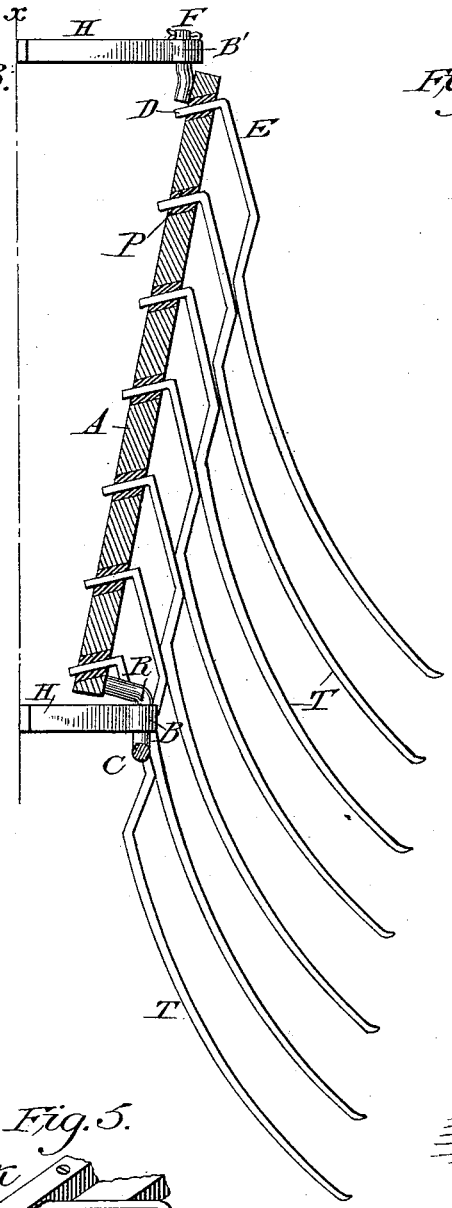


Fig. 4.

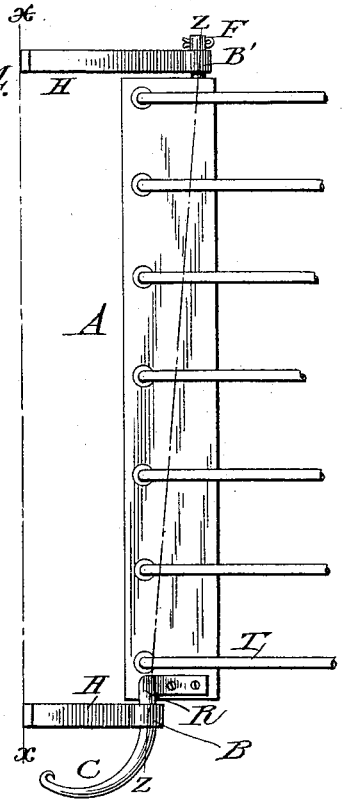


Fig. 6.

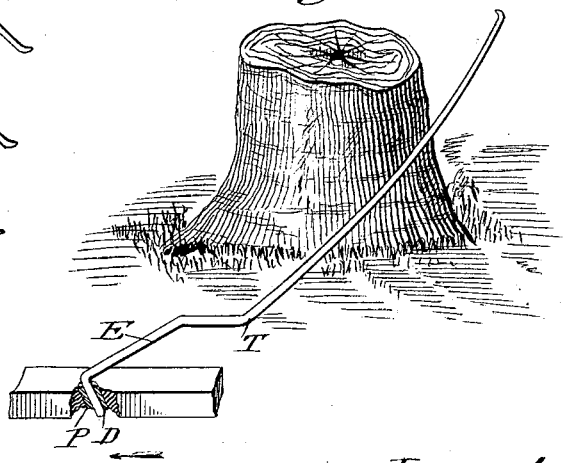
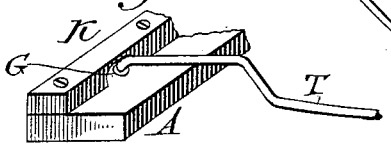


Fig. 5.



Witnesses.
P. Lorscheider.
Lee M. Boda.

Inventor:
Henry William Vietmeyer
by A. Zellar Boda
His Atty.

UNITED STATES PATENT OFFICE.

HENRY WILLIAM VIETMEYER, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO MATT. LORSCHEIDER, OF SAME PLACE.

BUNDLE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 386,171, dated July 17, 1888.

Application filed July 30, 1887. Serial No. 245,766. (No model.)

To all whom it may concern:

Be it known that I, HENRY WILLIAM VIETMEYER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Grain-Bundle Carriers; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of my invention is to increase the efficiency of self-binding harvesting-machines by providing an attachment therefor whereby the sheaves of grain are caught as they come from the binder and are carried along with it until nearly a sufficient number have accumulated to compose what is commonly called a "shock." When five or six sheaves are thus collected, the driver of the machine operates a lever, when the sheaves of grain are immediately unloaded all together. The labor of a sheaf-gatherer is thus dispensed with and one man can shock the grain as rapidly as the machinery cuts, binds, and gathers it. Heretofore these grain-bundle carriers have been very defective and unsatisfactory in operation. The steel teeth or fingers that catch and carry the sheaves being actuated by a rod or other mechanical means operated by the driver, he is compelled to be very alert in watching for and passing obstructions, as all the sheaves on the carrier must be dropped and the carrier folded before the obstruction is reached. Ordinarily, the machine proper requires the driver's constant attention, and for this reason it frequently happens that he forgets to unload and fold the carrier before the obstruction is reached. The result is, that the carrier is demolished and serious injury often happens to the working parts of the binder. Again, as before stated, the teeth or fingers of the old carrier are operated by mechanical means, to accomplish which adds greatly to its complication and consequent expense, and increases its liability to get out of order. All of these defects are remedied by my invention, as hereinafter fully set forth and explained.

In the accompanying drawings like letters refer to like parts in the various figures.

Figure 1 is a perspective view of my invention detached from the binder, showing the position of the carrier ready to receive a sheaf of grain. Fig. 2 is a perspective view detached from the binder, showing the position of the carrier after it has dropped its load. Fig. 3 is a perspective view of the carrier, showing the cross-bar A in horizontal section through line S S, Fig. 2. Fig. 4 is a top plan view of the carrier with part of the teeth removed. Figs. 5 and 6 are detached views of a portion of the cross-bar A and steel teeth. In Figs. 1, 2, 3, 4, and 6 the retaining-block K is omitted.

The construction of my invention is very simple. I first take a bar, A, of tough hickory or oak wood, in dimensions about one and a half inch thick, five or six inches wide, and about forty inches in length. Through the flat side of this bar six or seven holes are bored, at a longitudinal angle inclining to the rear of about forty-five degrees with the flat side and at equal distances apart, the diameter of the hole being large enough to admit a gas-pipe bushing, P, with an inside tubular diameter of about three-eighths of an inch. On the outer corner of the lower side and extreme front end of the bar A is secured a journal, F, as indicated in Figs. 1, 2, 3, and 4. At the rear end of the upper side of bar A is secured an iron crank-rod, C, and shank R, which also serves as a journal. Iron hangers H, with journal-boxes B and B', are next formed of suitable dimensions and shape for attachment to the various makes of self-binding harvesters with which it may be desired to use my invention.

Teeth or fingers T, about forty inches long, are bent out of steel rods into substantially the shape shown in Figs. 3 and 6, with the short end D at a right angle to the continuing part E. The short ends D of the teeth are now dropped into the tubular bushings P, in which the teeth work. A block, K, having a semicircular arch, G, cut in its under side immediately over each tooth, as shown in Fig. 5, is screwed to bar A, to keep the teeth or fingers from jarring out.

In the drawings I have not represented the harvesting-machine; but the lines X X in Figs. 1, 2, 3, and 4 represent the line of attachment

of the carrier to the harvester and the direction of the harvester's course.

This completes the construction of my invention, and when secured to the machine at the usual place under the binder apparatus its operation and advantages are as follows: Starting in a field of grain, the position of my carrier is as shown in Fig. 1. The sheaves drop from the binder onto the carrier until five or six bundles have accumulated, when the driver releases a crank by releasing the pressure of his foot, when a chain connecting the foot-crank with the hooked end of crank-rod C, Fig. 1, permits the latter to rise, turning the cross-bar A on its pivots and dropping the outer ends of the carrier-teeth T to the ground. The load is now discharged by automatic action, the ends of the teeth dragging on the ground until they and their supporting cross-bar A have assumed the position shown in perspective view, Fig. 2. The moment the ends of the teeth touch the ground and begin to drag backward the bundles of grain are unloaded and the carrier is ready to be brought back into position ready to catch the successive sheaves.

Referring to the top plan view, Fig. 4, it will be noticed that my carrier, when in position to catch the sheaves, is in parallel line with the harvesting-machine, but that the pivotal points of the bar A deflect from this line from the rear to the forward end, as indicated by the line Z Z. The effect of this deflection is to purposely throw the outer corner of the rear end of the bar A (as it rotates for unloading) toward the harvesting-machine, thereby giving the carrier-fingers a more direct draw from the bundles as the machine advances. To further increase this deflection to the rear and draw from the sheaves, a shank, R, Fig. 3, throws the rear end of the cross-bar A still farther toward the machine in proportion to the length of the shank R from the line of its bearing in journal-box B to its line of attachment to bar A. It is evident that this element in my invention is a new and important means of accomplishing the desired result, as the shank R can be made any desired length, so as to throw the rear end of the bundle-carrier against the harvesting-machine, while the front end retains a fixed distance from it. By virtue of this action the sheaves of grain are more expeditiously unloaded, and with less jar or concussion to the grain, thereby saving the loss of seed when the pods are overripe.

In Fig. 3 the ends D of the teeth T pass through and work in the bar A at a longitudinal angle of about forty-five degrees inclining to the rear from the flat surface of the bar. The effect and purpose of this is double. When the driver wishes to bring the carrier back into position, pressure on the foot-crank pulls the crank-rod C, Fig. 2, bringing the upper flat surface of the bar A into its horizontal position. As the latter turns upward, the teeth from their own weight drop back into the position shown in Fig. 1. The second purpose of pivoting the ends D into bar A at an angle of forty-five degrees inclining to the rear of said bar is clearly shown in Fig. 6. When the teeth T strike an obstruction, the obstruction throws them upward and backward until the obstacle is passed, when they automatically drop back into position, as in Fig. 1, without any attention from the driver. Should there be any bundles on the carrier at the time, they need not be dropped, as my carrier will retain them while clearing or passing the obstruction.

It will be seen from the above description of the operation of my invention that the teeth have an independent action, always adjusting themselves either to carry or drop the sheaves of grain or clear obstructions, however large, and that this automatic operation of the teeth is attained by their own gravity and from the acute angle in which they are socketed or pivoted in their supporting-bar.

In constructing my invention the materials and sizes of the various parts may be changed from the specifications as herein given, as experience may demonstrate to be desirable and necessary.

The apparent advantages of my invention are, simplicity and cheapness of construction, it costing but little over one-half of those now in use; automatic action in unloading the sheaves, depositing them on the ground without any jar, thus preventing the loss of overripe grain; automatic action in passing obstructions, and independent action of the teeth in throwing themselves back into position.

Having thus fully described and set forth my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a sheaf-carrier, the hangers H, secured to the harvester-frame and having bearings B and B′, respectively, in combination with a finger-supporting bar, A, and fingers T, pivoted in said bar A, having a crank, C, and shank R, attached to its rear end and pivoted at its rear inner corner in journal-bearing B, and a journal, F, attached to its forward and outer end and pivoted in journal-bearing B′ in the front arm, H, the arrangement of said shank R and journal F serving the purpose of throwing the rear end of the finger-supporting bar A toward the harvester-frame when the bar is rocked to unload, all arranged substantially as and for the purpose described.

2. In a sheaf-carrier, the hangers H, secured to the harvester-frame, the finger-supporting bar A, journaled in the rear hanger at its inner corner and in the front hanger at its outer corner, in combination with fingers T, having their ends D bent at right angles and pivoted through the bar A upon axes inclined rearwardly, so that when the bar A is rocked to unload the grain the fingers in striking the ground draw backward, and when the bar is rocked to its receiving position the fingers T, by their own weight, assume a right angle with their supporting-bar, substantially as described, and for the purposes set forth.

3. In a sheaf-carrier, the combination of

hangers H, secured to the harvester-frame and having journal-bearings B and B′, with a finger-supporting bar, A, having crank C and shank R attached to its rear inner corner and pivot-journal F to its forward outer corner, the said crank C being pivoted in the rear journal-bearing, B, and journal F being pivoted in the front journal-bearing, B′, and fingers T, having their inner ends D bent and pivoted through bar A upon axes inclined rearwardly, chain N, retaining-block K, and arch G, all arranged substantially as described, and for the purposes set forth.

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

HENRY WILLIAM VIETMEYER.

Witnesses:
A. ZELLAR BODA,
MAT. LORSCHEIDER.