

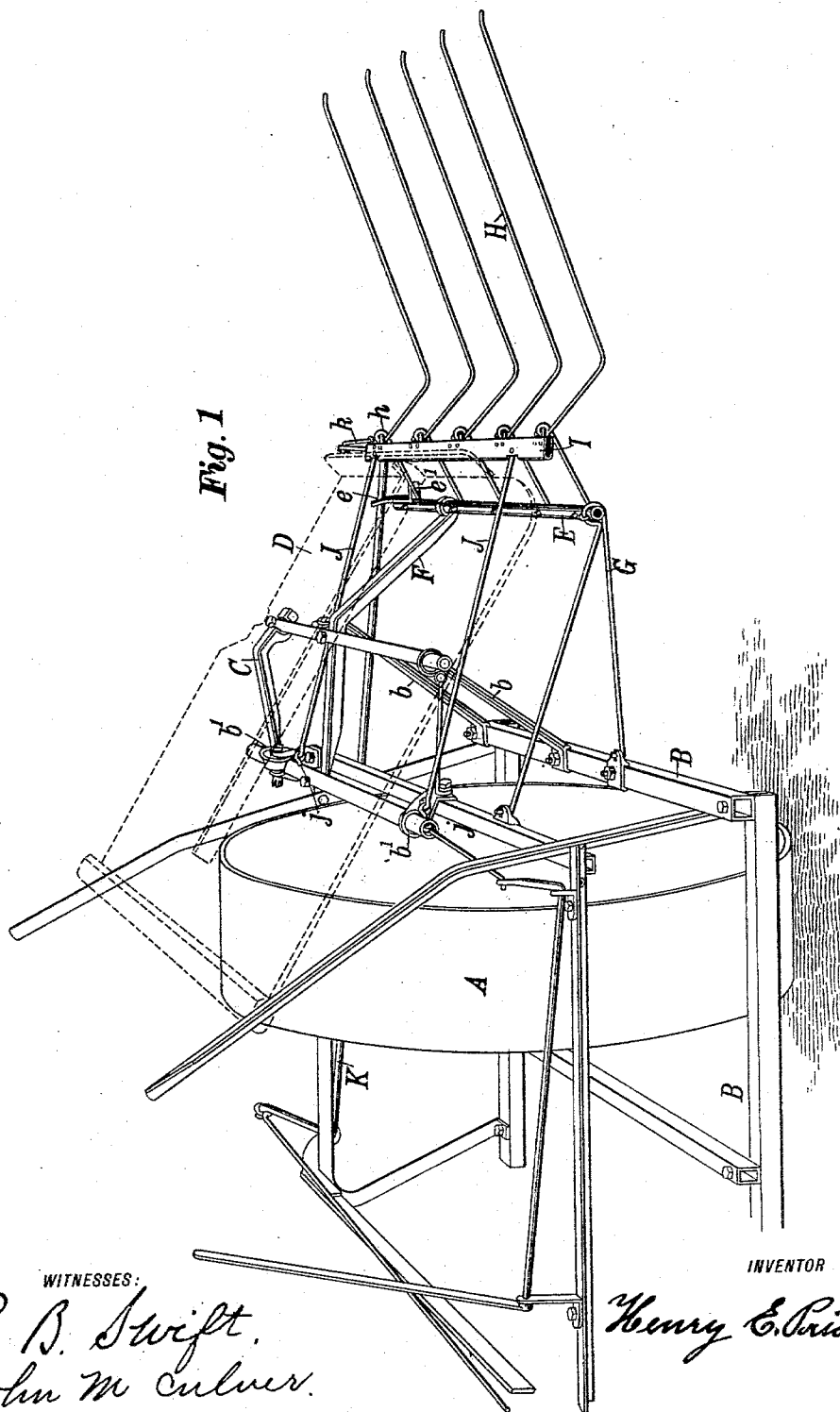
(No Model.)

8 Sheets—Sheet 1.

H. E. PRIDMORE.
BUNDLE CARRIER FOR GRAIN BINDERS.

No. 584,014.

Patented June 8, 1897.



WITNESSES:

R. B. Swift,
John M. Culver.

INVENTOR

Henry E. Pridmore

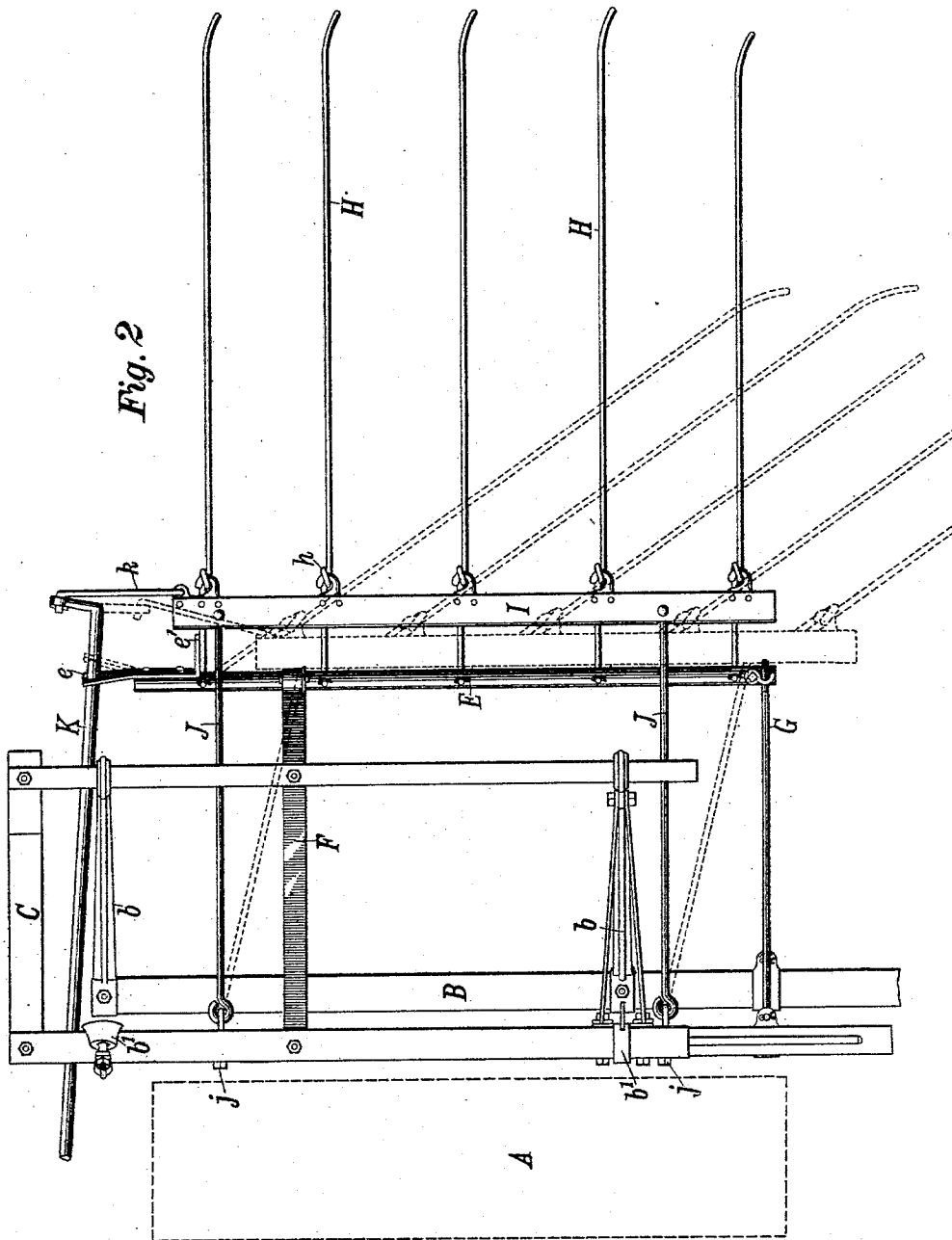
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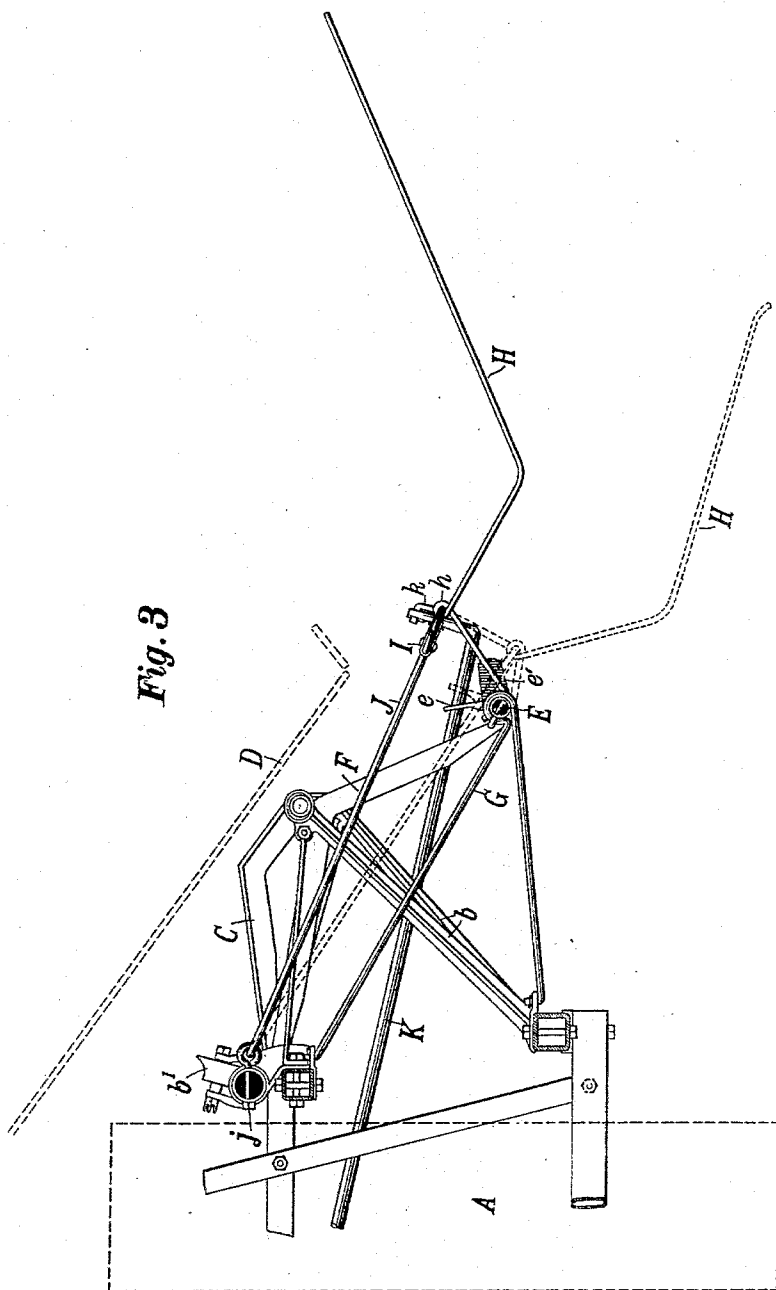
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UNITED STATES PATENT OFFICE.

HENRY E. PRIDMORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE McCORMICK HARVESTING MACHINE COMPANY.

BUNDLE-CARRIER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 584,014, dated June 8, 1897.

Application filed October 20, 1894. Serial No. 526,462. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. PRIDMORE, a citizen of the United States, residing at Chicago, county of Cook, in the State of Illinois, have invented certain Improvements in Bundle-Carriers for Grain-Binders, of which the following is a specification.

My invention relates to improved means by which the bound bundles as they are discharged from a grain-binder may be carried therewith and dropped in piles in windrows convenient for shocking. My aim is to provide a carrier which shall be at once very simple, light, inexpensive, and easily operated and which when attached to the harvesting-machine shall be graceful and symmetrical in appearance. I accomplish these results by attaching to the harvesting-machine beneath the deck of the binder a primary bar, in which I pivot a series of carrying-fingers that when in receiving position extend outwardly from the machine parallel with the path of the discharged bundle and form a platform on which the bundles rest. These fingers are sustained and held in position to receive the bundles by being attached to a controlling-bar that is hung on the harvester-frame by means of tie-rods. The movement of this controlling-bar guides the fingers in dumping, the primary bar having a rolling movement that permits the dropping of the outer ends of the fingers, while their folding is allowed by their jointed connection to the primary bar. The construction of these parts, together with a plan for adjusting the carrier with the binding attachment, will be shown in the drawings and hereinafter more fully described.

Referring to the accompanying drawings, Figure 1 is a view in perspective of the carrier and so much of the harvesting-machine as is necessary to show its attachment and method of operation. The deck of the binder is shown in dotted lines. Fig. 2 is a plan view showing the bundle-carrier in receiving position and its method of attachment to the harvester, as well as the operating-lever by which it is controlled. The carrier is shown in this view in dotted lines in the position it would occupy when discharging its load. Fig. 3 is an elevation from the rear end, showing

the carrier in receiving position in full lines and dropped into the discharging position in dotted lines. The deck-line is also shown in this view in dotted lines.

A represents the main wheel of the harvester, B the frame of the harvester, and b the supporting-posts upon which the outer side of the binding attachment rests, while b' represents the guides that hold the inner binder-sill upon the harvester-frame.

C represents the binder-frame, and in outline the binder-deck D is shown overhanging the carrier-supports.

In the construction shown in the drawings the carrier is so attached to the harvesting-machine as to partake of the movement of the binder in its adjustment for long and short grain.

In proceeding to attach my carrier I provide a primary bar E, journaling its front end in a bearing formed by the bar F, which is connected to the sills C of the binder-frame. To support its rear end, I pivot a forked support G to the sills of the harvester and form a bearing for the bar E in the closed end of the fork. That this support may have more strength I connect one branch to the lower sill B of the frame of the harvester and one to the upper sill B, as shown in the drawings of Fig. 1. With the bar E in position, as described, it is evident that any adjustment of the binder by its adjusting-lever will carry the bar E with it, the forward end of the bar keeping its position in relation to the binding attachment, while the rear end will swing slightly on an arc described by the forked bar G.

A series of receiving-fingers have their inner ends supported in the bar E, and by means hereinafter to be described are held projected outwardly to form a platform for the bundles. Enough fingers can be employed to prevent the bundles from falling between them and to make more or less of a close bottom, as is desired. I have found in practice that five fingers are sufficient. In order to support these fingers and their load and hold them parallel in receiving position, I hook them to a supporting-bar I at a point about one-fifth of their length from the bar E, and by means of the tie-rods J, I connect this supporting-bar I to

the inner pipe of the binder-frame C. It is plain that this attachment of these tie-rods could be to any part of the harvester or binder that did not interfere with the discharge of the bundle from the binder, so long as the point of attachment was toward the harvester from the point of attachment of the rolling bar E. The point of attachment shown has, however, certain advantages, in that the strain of the load is carried close to the main wheel and to a point on the binder that is strongly supported on the harvester. The tie-rods J are connected to the binder-pipe by means of swivel-eyebolts j.

The supporting-bar I is controlled by means of the long bell-crank lever K, that extends by means of connections to within reach of the operator of the machine. A connecting-rod k unites one crank of the lever K with the supporting-bar I. The inner end of the crank-shaft K is journaled upon the frame of the harvester. The outer end, however, passes through an extension e of the bar E and thus follows the carrier in its fore-and-aft movement, but remains rigid in relation thereto, so that any rocking of the crank-shaft is transmitted to the supporting-bar I, pulling it forwardly and backwardly. Inasmuch as the bar E is caused to roll in its bearings when the carrier is dumped I make the hole through the extension e elongated, as shown in Fig. 2, and thus the bar E can roll without pinching the shaft K. A stop e' on the bar E prevents the carrier from going too far forward, and in practice I have found that this stop can be so located that the transverse vertical plane (with reference to the direction of travel of the harvester) passing through the pivotal connection between the fingers H and bar I shall be slightly in advance of the transverse vertical plane passing through the pivotal connection between the fingers H and bar E, and the operator be thus relieved from holding the carrier in position. A slight pull, however, on the lever K is sufficient to throw the fingers over the center, and the weight of the load will thus assist the operator in dumping.

In the drawings I have shown as a preferable construction the fingers H bent upwardly at their inner ends and journaled in the rolling bar E. Thus pivoting tends to keep the teeth of the carrier from rocking on the supporting-bar I and allows them to swing to the rearward when the carrier is dumped. The teeth are also upwardly inclined from the rolling bar E and bent upon themselves, so as to form an eye h, by which they are hooked to the supporting-bar I. This form of teeth is easy to manufacture; but any form that will allow the attachment of the supporting-bar I and still permit of an oscillatory forward and backward movement of the bar sufficient for the sheaves to be discharged from the fingers would answer the purpose as well. A downward inclination of the fingers from the bar I gives the carrier more capacity to carry bundles. It will be seen that the dis-

charge of the bundle is obtained by the oscillation of the supporting-bar on its tie-rods and that the office of the primary bar is a supporting one only. This inner bar does not direct the path of the teeth during the discharge operation. It merely permits the teeth to take the course given them by the oscillation of the supporting-bar, and their path would be the same were their ends projected into sockets in a bar fixed in its supports.

Having now described my invention, what I desire to secure by Letters Patent is—

1. In combination with a harvesting and binding machine to form a sheaf-carrier, a bar pivotally attached to the machine by links, a series of laterally-projecting sheaf-receiving fingers pivoted thereto near their inner ends, a secondary bar fixed to the machine against which the inner ends of the fingers have a bearing, the fingers holding the first-mentioned bar from the secondary bar and a controlling device, substantially as and for the purpose specified.

2. In combination with a harvesting and binding machine a bar parallel with the advance of the machine, hung from the machine on pivoted links, a series of sheaf-receiving fingers pivoted to the bar near their inner ends, supports for the inner ends of the fingers, the load upon the carrier resting upon the outer ends of the carrier-fingers, and transferred through the parallel bar which supports the fingers as a fulcrum to the finger-supports attached to the machine.

3. In combination to form a sheaf-carrier for self-binding harvesters, fingers hung to a bar between their ends, the bar being supported on the machine by pivoted links, a bar attached to the machine against which the ends of the fingers have a bearing, whereby a supporting-table for the bundles is formed by the fingers acting as levers, the bar hung upon pivoted links acting as a fulcrum for the load, the weight being carried to the supporting-bar.

4. In a bundle-carrier for self-binding harvesters, in combination, a series of fingers projecting normally at right angles at the path of the machine, their inner ends supported by a rolling bar on the machine, a sustaining-bar to which each of the fingers is connected, supporting-rods pivotally connecting the sustaining-bar to the machine and attached to the machine in a plane that is above the horizontal plane of the rolling bar, and inwardly from the vertical plane of the rolling bar, substantially as and for the purpose specified.

5. In a bundle-carrier for self-binding harvesters, in combination a bar attached to the machine, a series of fingers having bearings at their inner ends therein, a sustaining-bar connected with each of the fingers at a point toward their extremities from the supports at the inner ends of the fingers, rods pivoted to the machine and uniting the sustaining-bar with the machine-frame, the pivots of the

sustaining-rods on the machine-frame being both above and inwardly from the sustaining-bar and the supports at the inner ends of the fingers, a controlling device connecting the sustaining-bar and a treadle on the machine located convenient to the operator, whereby the movement of the sustaining-bar will swing it on its links, the fingers dropping downward and inward as the controlling-bar is swung, substantially as and for the purpose specified.

6. In a bundle-carrier for self-binding harvesters, in combination, a bar attached to the frame of the machine, a series of sheaf-receiving fingers whose inner ends are supported by the bar, a sustaining-bar to which each of the fingers is pivoted stubbleward from their inner ends, the sustaining-bar being pivotally connected to the machine by links that support it in a plane above that of the first-mentioned bar, whereby the sustaining-bar is permitted to swing, its path of movement being governed by the inner ends of the fingers and the links and a controlling device extending from the sustaining-bar convenient to the operator.

7. In combination with a self-binding harvester to form a bundle-carrier, a series of sheaf-receiving fingers that are connected between their ends to a bar that is pivotally hung to the machine by links, which links are attached to the machine in a plane above and inward from the bearing of the fingers upon the bar, a secondary bar supported from the machine-frame and positioned downwardly and inwardly from the point of attachment of the links to the machine and downwardly and inwardly from the position of the first-mentioned bar, the inner ends of the fingers serving as connections between the two bars and forming with the links which support the first-mentioned bar an acute angle, a controlling device extending from the

machine to the first-mentioned bar, and means whereby the operator, through the controlling device, can move the first-mentioned bar forwardly and backwardly, its movement being governed by the links and the inner ends of the fingers, substantially as and for the purpose specified.

8. In combination with a harvester-frame and with the shifting binder, of a bar connected at one end to the binder and at the other end to a swinging support from the harvester, a sustaining-bar, bundle-carrying fingers connecting the two bars and links connecting the sustaining-bar with the shifting binder, substantially as and for the purpose specified.

9. In combination with the harvester-frame, and with the binder, of a bundle-carrier, one end of which is attached to the binder while the other is carried on a swinging support pivoted on the harvester, substantially as and for the purpose specified.

10. In combination with a binder adjustable along the frame of the harvester, the following parts to form an adjustable bundle-carrier, viz: a bar rigidly attached to the frame of the binder to serve as a bearing for one end of the primary bar of the bundle-carrier, a supporting connection pivoted to the frame of the harvester and serving as a bearing for the other end of the primary bar, tie-rods connecting the sustaining-bar of the bundle-carrier with the binder, fingers pivoted to the primary bar and connected to the sustaining-bar, and a controlling device having one bearing upon the harvester and the other upon the bundle-carrier, substantially as and for the purpose described.

HENRY E. PRIDMORE.

Witnesses:

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E. E. CLINTON.