

(No Model.)

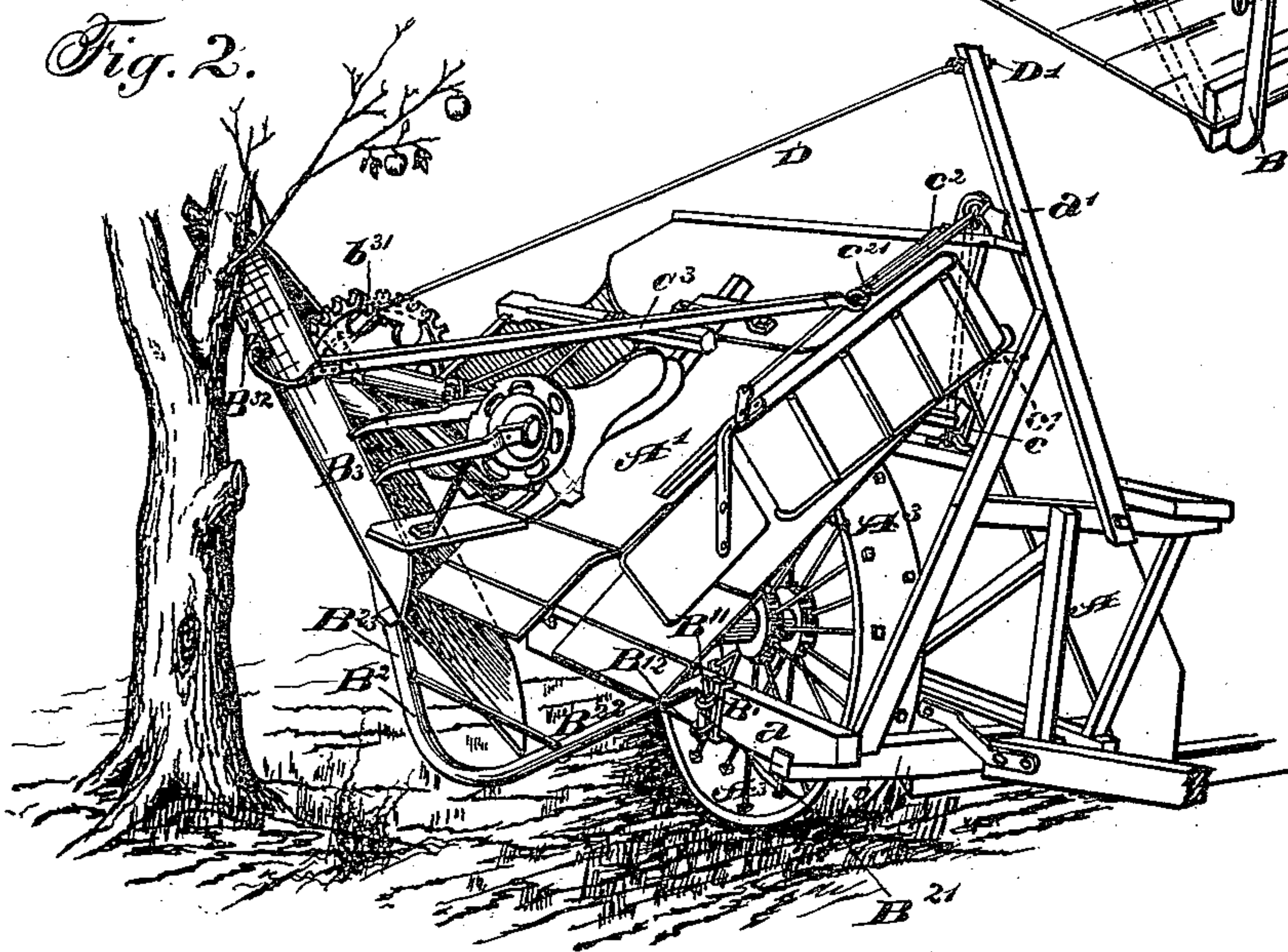
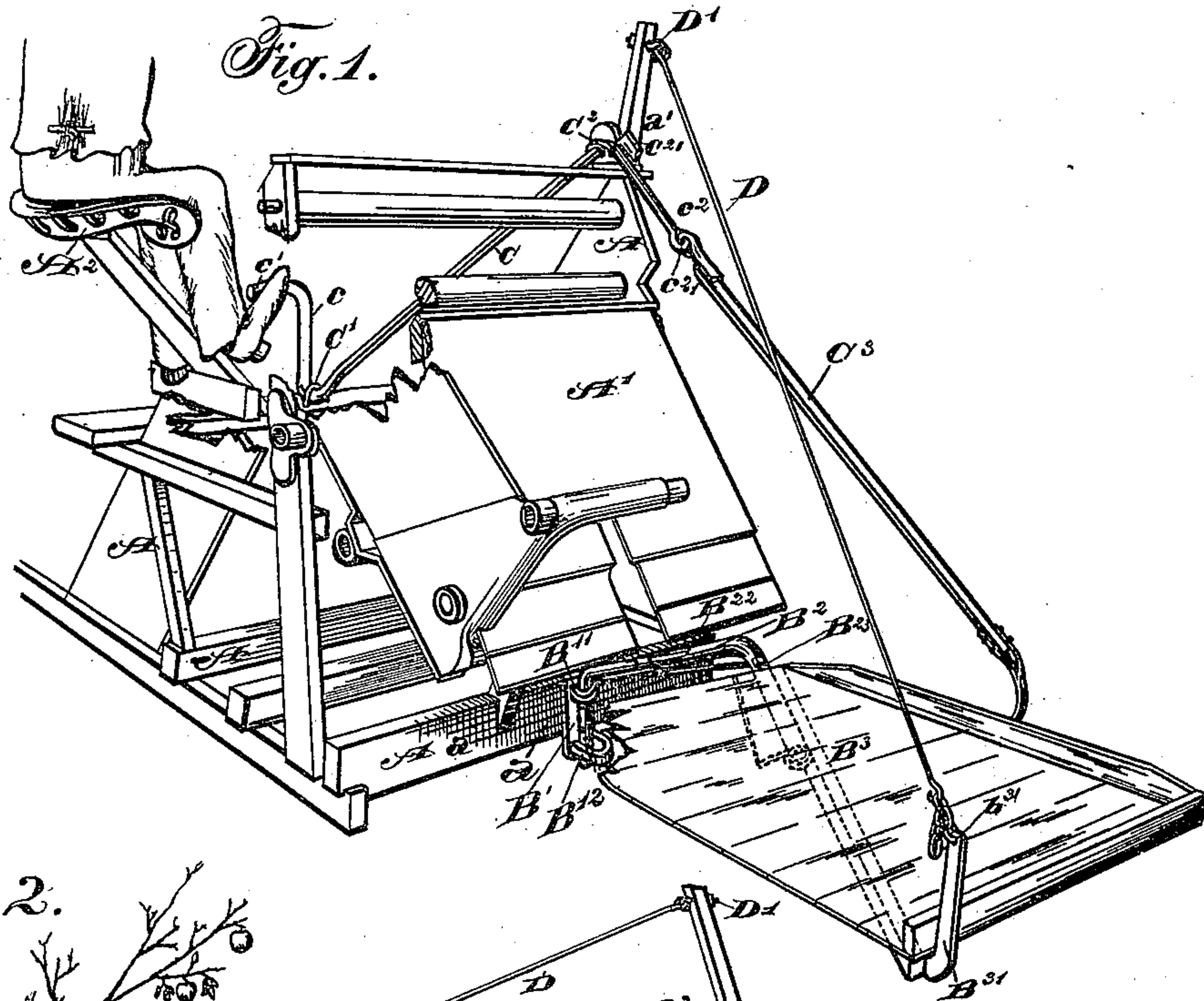
2 Sheets—Sheet 1.

J. F. STEWARD.

BUNDLE CARRIER FOR GRAIN HARVESTERS.

No. 396,518.

Patented Jan. 22, 1889.



Witnesses:
John B. Caspary
J. W. Gates

Inventor:
John F. Steward

(No Model.)

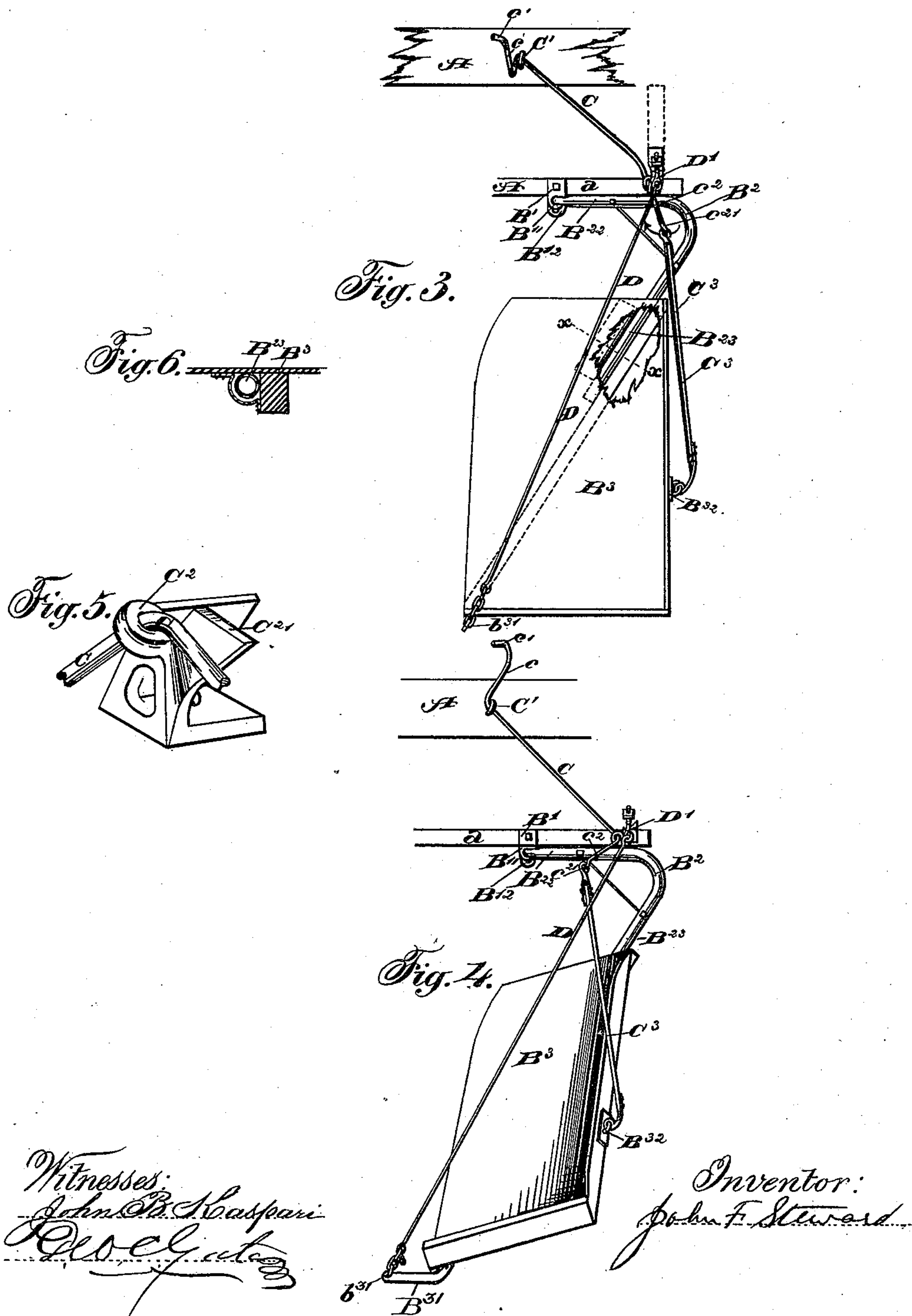
2 Sheets—Sheet 2.

J. F. STEWARD.

BUNDLE CARRIER FOR GRAIN HARVESTERS.

No. 396,518.

Patented Jan. 22, 1889.



Witnesses:
John B. Caspary
Deputy

Inventor:
John F. Steward

UNITED STATES PATENT OFFICE.

JOHN F. STEWARD, OF CHICAGO, ILLINOIS.

BUNDLE-CARRIER FOR GRAIN-HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 396,518, dated January 22, 1889.

Application filed July 9, 1885. Renewed October 19, 1888. Serial No. 288,602. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. STEWARD, 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 for Grain-Harvesters, which are fully described and set forth in the following specification.

The purpose of this invention is to provide a bundle-carrier for a self-binding harvester which may be folded up against the harvester, so as not to materially increase the width of the entire machine or prevent it from passing through gateways which would admit it if the carrier were removed, and also to render such carrier adapted to yield and swing out of the way or fold up against the machine automatically when it encounters an obstacle in the course of the travel of the machine. I accomplish these purposes by means of the structure hereinafter described, and illustrated in the drawings, in which—

Figure 1 is a perspective of a portion of a self-binding harvester with my bundle-carrier attached, seen from the rear outer corner. Fig. 2 is a perspective of the same as appearing from the front outer corner when the bundle-carrier is encountering an obstacle. Figs. 3 and 4 are detail plans of the carrier and the lever and link-connections for dumping it at will, the former showing it in position to carry the bundles, and the latter showing it in the process of dumping. Fig. 5 is a perspective detail of the upper bearing of the dumping-lever rock-shaft. Fig. 6 is a section through the line $x x$ in Fig. 3, showing the bearing of the arm of the gibbet over which the carrier-platform rocks.

A is the frame; A', the binder-table; A², the seat; A³, the binder drive-wheel.

To any convenient point on the outer side of the harvester-frame, as to the beam a of the frame A, I secure the bracket B', having two bearings, B¹¹ and B¹², in a vertical line, the lower, B¹², elongated or slotted horizontally outward, as seen in Fig. 1, for a purpose hereinafter explained.

B² is the supporting-gibbet which sustains the bundle-carrier platform. It comprises the vertical portion B²¹, which is held loosely in the bearings B¹¹ and B¹² of the bracket B'

and the horizontal portions B²² and B²³, the latter being a continuation of the former, but bent at an acute angle thereto, so that when the former stands alongside the beam a the latter extends off from it obliquely backward.

B³ is the bundle-carrier platform. It is pivoted on and adapted to rock or tip over the oblique portion B²³ of the gibbet B², the axis of its said rocking motion being, therefore, substantially coincident with the diagonal from its inner front corner to its outer rear corner. At the said outer rear corner it is provided with the rigid lug B³¹, provided at the upper end with an eye, b^{31} , for a purpose to be hereinafter explained, and at a point a little forward of the middle of the front side it has the staple or eye B³², the use of which is hereinafter explained.

C is a cranked shaft or rod, which has one bearing at the eye C' on a beam of the harvester-frame lower than the driver's seat and another bearing in the eye C², secured to the harvester-frame at a point higher than and outward from the first-named bearing, so that the direction of the said shaft between said bearings is upward and outward—that is, stubbleward. Beyond the eye C' it is bent to form the crank c , whose wrist c' stands in position to be reached by the foot of the driver and receiving therefrom a lateral and forward pressure to rock the shaft in its bearings. Beyond the eye C² the shaft C is bent nearly at right angles to its direction between the said eyes and in a plane sloping downward and stubbleward, and the end of this portion c^2 is provided with the eye c^{21} , by means of which the cranked shaft C is connected to the link C³, which at the other end is connected to the eye B³².

To the harvester-frame at a point forward and inward from the binder a post or arm, a' , is extended upward, and to it at a point above the eye C² is secured the eye D', into which is connected the link or chain D, which is connected at the other end into the eye b^{31} of the lug B³¹.

The carrier-platform B³ is approximately balanced over its pivot—the oblique extension B²³ of the gibbet B²—and as the bundles are delivered onto it from the binder, the greater portion falling upon the rear part of the said

platform will tend to tip it and cause the discharge of the accumulated bundles to the ground; but such discharge may be prevented or caused at will by means of the cranked shaft C and its link-connections with the said platform above described. The direction of the arm c^2 of the cranked shaft C is made such that when the carrier-platform B^3 is level the said arm c^2 and the link C^3 are not quite in line, the eye c^{21} , which makes the joint between them, being a little forward of a direct line from the bearing of the cranked shaft at the eye C^2 and the connection of the link C^3 to the platform at the eye B^{32} . The tipping of the platform tending to shorten the distance from the eye B^{32} to the eye C^2 , and thereby to flex the joint formed at the eye c^{21} , will tend to produce such flexure by throwing said joint still farther forward; but this is prevented by the fact that the casting in which the eye C^2 is formed is provided with a stop, C^{21} , to prevent the cranked shaft C from rocking farther in that direction; or, in the absence of such stop, the driver by his foot holding the crank-wrist c' will prevent the crank rocking in that direction, and the driver can by a slight pressure of the foot applied to the said wrist c' rock the shaft C in the opposite direction to cause the joint at the eye c^{21} to pass to the rear of the line from the eye C^2 to the eye B^{32} , and the tipping of the overbalanced platform will then continue the rocking of the shaft C, flexing the joint at the eye c^{21} rearward in the manner illustrated in Fig. 4. The same action can be forced by the driver by continuing the pressure of the foot upon the crank c whether the platform is overbalanced or not, thus emptying the carrier at any time.

When in the course of the travel of the machine the bundle-carrier platform encounters an obstacle, such obstacle, striking the front edge of the said platform B^3 , will first swing the entire carrier with its gibbet B^2 about the vertical axis B^{21} . The relative positions of this axis, the eye b^{31} , and the eye D' are such that the said swinging of the carrier about the axis B^{21} will cause its outer rear corner to rise slightly, such a motion being rendered possible by the looseness of the arm B^{21} in the bearing B^{11} and by the slotted or elongated character of the bearing B^{12} . Further, the said horizontal rotation, if continued with the platform B^3 in a horizontal position, would necessitate the elongation of the link C^3 ; but said link being non-extensible, it results in raising the eye B^{32} , and with it the front edge of the platform B^3 , and so rocking the platform over its diagonal horizontal axis, (the arm B^{23}), thus still further assisting the clearing of the obstacle. The proportions of the

several parts are such that by the time the gibbet-arm B^{22} is at right angles to the beam a the platform B^3 is nearly vertical, the position being substantially as seen in Fig. 2. If the obstacle is not yet entirely cleared, the carrier can still swing around until the platform in such vertical position encounters some portion of the frame of the harvester or binder. The curved course of the carrier swinging about the vertical axis B^{21} of its gibbet B^2 has caused it to pass around the most projecting part of the binder frame and table, and when it encounters any other part in the rear, as the binder drive-wheel A^3 , its own most outward projection will not project farther than the binder-table itself, and the lateral compass of the entire machine with the carrier attached and thus folded will be no greater than that of the machine without the carrier.

I claim—

1. In combination, substantially as set forth, the gibbet having the vertical post pivoted to the harvester-frame, the carrier-platform pivoted on and rocking over the horizontal arm of said gibbet, a cranked rock-shaft journaled on the harvester-frame, having a crank-arm higher than the carrier-platform and farther forward than the gibbet-post, and an arm for rocking it at will, and a link connected to the first crank-arm at one end and at the other end to the carrier-platform at a point forward of the vertical plane of the axis over which it rocks, whereby said link causes that either the swinging of the gibbet or the rocking of the cranked shaft dumps the carrier-platform.

2. In combination, substantially as set forth, the gibbet having the vertical post pivoted to the harvester-platform and its horizontal arm extending from the post forward and thence bent outward, the carrier-platform pivoted on and rocking over said outwardly-bent part, and a link connected at one end to the carrier-platform at a point forward of the vertical plane of the axis over which it rocks and at the other end pivoted at a point higher than the carrier-platform and farther forward than the gibbet-post.

3. In combination, substantially as set forth, the gibbet having its vertical post pivoted to the harvester-frame and its horizontal arm extending from the post forward and thence outward and backward at an acute angle to its first or inner portion, and the carrier-platform pivoted on and adapted to rock over said outwardly-extended portion.

JOHN F. STEWARD.

Witnesses:

JOHN B. KASPARI,
GEO. C. GATES.