

(No Model.)

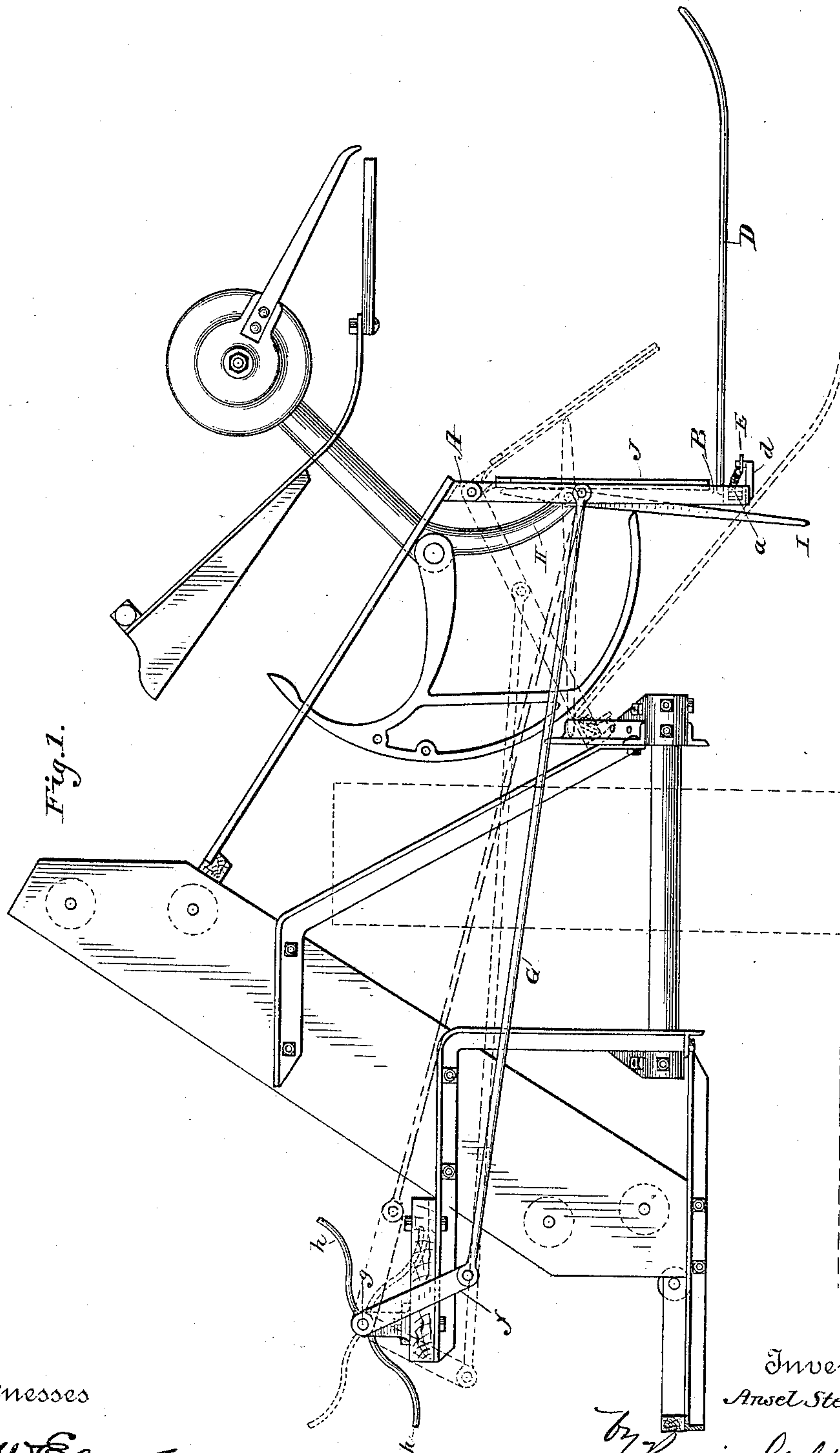
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A. STEVENS.

SHEAF CARRIER FOR SELF BINDING HARVESTERS.

No. 452,856.


Patented May 26, 1891.



Witnesses

L. W. Elmore
A. M. Perkins

Inventor
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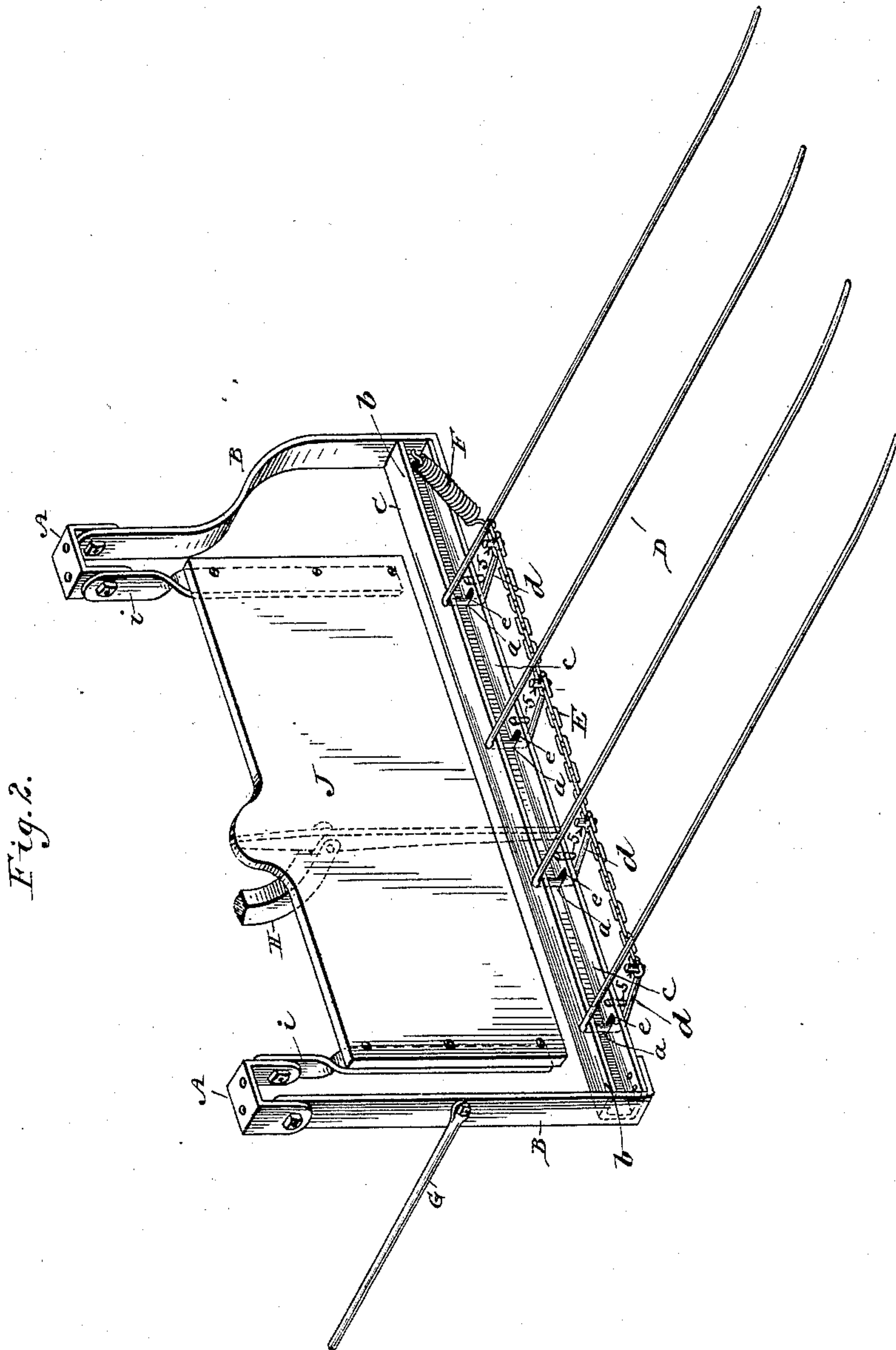
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UNITED STATES PATENT OFFICE.

ANSEL STEVENS, OF GORHAM, ASSIGNOR OF ONE-HALF TO JOHN J. FRYE,
OF PORTLAND, MAINE.

SHEAF-CARRIER FOR SELF-BINDING HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 452,856, dated May 26, 1891.

Application filed April 8, 1890. Serial No. 347,046. (No model.)

To all whom it may concern:

Be it known that I, ANSEL STEVENS, a citizen of the United States, residing at Gorham, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Sheaf-Carriers for Self-Binding 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 present invention relates to sheaf-carriers for self-binding harvesters; and it has for its object to provide a carrier which when released will dump by the weight of the sheaves, and which will insure a prompt and clean discharge of the bundles and a quick return to the receiving position.

Bundle-carriers have heretofore been used consisting of laterally-projecting fingers individually pivoted to a rocking bar, which is in turn pivoted to the lower sills of the harvester-frame, the carrier being dumped by allowing the outer ends of the fingers to drop to the ground and the bundles to roll off.

My invention relates to this type of carriers; but with a view to improving its operation in the respects above referred to the fingers are individually pivoted to a rigid bar carried by a swinging frame or links pivoted at their upper ends to the binder-table, so that when the carrier is dumped the bar swings in under the table, withdrawing the fingers from under the bundles and causing them to fall in a heap, instead of straggling along. To still further help this discharge, I contemplate using a supplementary device to move outwardly as the bar swings inwardly and push or strip the bundles off the fingers. I also hang the carrier from the movable binder, so that it need not be made so wide as those supported on the harvester-frame, and I furthermore pivot the fingers to the bar so that they may individually or collectively swing to the rear upon meeting any obstruction, or move upward upon coming in contact with any obstacle from beneath, or upon their ends meeting the ground as their supporting-bar swings inward and upward.

In the accompanying drawings, Figure 1 is a rear elevation of a self-binder with one of

my improved carriers attached, it being shown in receiving position by full lines and in its dumping position by broken lines. Fig. 2 is a perspective view of the carrier detached, showing the details of its construction.

The machine shown needs no description, being of the well-known Marsh-Appleby type. The carrier may, however, be applied to any other type.

A A denote a pair of short stout angle-iron brackets, riveted or otherwise secured to the binder-table near its front and rear outer corners. B B are two links pivoted at their upper ends to these brackets, and forming a swinging frame carrying at its lower end the finger-supporting bar C, shown in this instance as a channel-iron.

The carrier-fingers D may be made of stout steel wire. They are slightly bent upward at their outer ends to prevent the bundles jolting or rolling off. At their inner ends they are bent at a right angle, forming short vertical pivoted portions *a*, which have bearings in the upper and lower horizontal flanges *b c* of the channel-iron bar. From the lower end of this vertical pivot they are bent back upon and parallel with the body of the finger, forming a cranked end, as at *d*. The upper flange *b* of the channel-iron is formed with circular openings or perforations to receive the pivotal portions of the fingers, said openings being large enough to allow slight play, for a purpose presently to be described. The lower flange *c* of the channel-iron is provided with slots *e*, cut transversely, or so as to stand lengthwise of the fingers in their receiving position.

E is a chain connecting the cranked ends *d* of all the fingers together.

F is a spring, (here shown as a coil,) one end being connected to the front end of the chain and the other to the swinging frame-link B, the spring serving to keep the fingers extended normally at a right angle to the bar C, or, in other words, in their receiving position, and any suitable stop being provided to prevent their being carried too far forward—as, for example, a lug or lugs, as shown at 5, on the lower flange of the channel-bar for the cranked ends *d* of the fingers to strike against.

To one of the swinging frame-links B, pref-

erably the rear one, is connected the pitman G, said pitman extending over and being attached at its other end to a crank *f* on a short shaft *g*, mounted on the seat-plank in convenient position to be rocked in either direction by the driver putting his foot on the pedals *h*. The crank and the pitman may be arranged in such relative positions that when the carrier, as shown in Fig. 1, is in its receiving position they shall form a toggle-lock to hold it up against the weight of the bundles. Two pedals are shown in the drawings, one projecting from each side of the shaft *g*. With this construction it is not necessary to use the toggle-lock, as the driver may by holding his foot upon the grainward pedal keep the carrier from dumping.

Pivoted to the brackets A by suitable lugs or straps *i*, so as to swing in the direction of the length of the fingers, is the board J, forming the supplementary bundle-discharging device above referred to. The board preferably occupies nearly the entire space between the frame-links and prevents the bundles from jolting or falling off that side of the carrier. As a convenient means for moving this push-board in opposition to the movement of the swinging carrier-frame, I pivot to a leg H, depending from the underlying arm of the binder, or to any other suitable part of the frame, a lever I, whose lower end hangs down inside of and against the finger-supporting bar C, and whose upper end extends some distance above its pivot, where it bears upon the upper part of the push-board, so as to force the latter outward as its upper end is carried inward by the finger-supporting bar in the act of dumping the carrier. I do not wish to be limited to this means for actuating the supplementary discharger, nor, indeed, to the use of the discharger itself. When used, it may be actuated by any other suitable means, actuated either by the carrier in the act of dumping or by extraneous devices; nor do I intend to confine myself to the details of construction of the other parts, as they may be varied within wide limits and still be within the spirit and scope of my invention.

The construction being as above described, the operation is simple. When a sufficient number of bundles have been bound and dropped into the carrier to form a shock, (usually six or eight,) the driver, without necessarily stopping the machine, presses his foot upon the treadle *h* and breaks the toggle-lock, when the weight of the bundles upon the fingers causes the carrier to be automatically dumped, the driver, if he finds it desirable, assisting the withdrawal of the fingers by continuing the pressure on the treadle. In this dumping action the finger-supporting bar, instead of rocking on its own axis, swings about the pivots of the frame-links some distance above. This draws the fingers in under the machine and drops their outer ends to the ground, giving them a much steeper inclination when in the discharging

position than if the bar simply rocked on its own axis. The slots in the lower flange of the channel-iron not only permit the outer ends of the fingers to move up so as to ride over any obstructions, but allow the bar to continue to move after the fingers have struck the ground. As the bar moves inward in this dumping action it carries the lower end of the push-board lever with it, rocking it on its pivot and forcing its upper end against the board, pushing it outward and causing it to strip or shove the bundles off the fingers. After the sheaves are dropped gravity causes all the parts to return promptly to their normal position in time to catch the next bundle falling from the binder. As above stated, I prefer to connect the cranked inner ends of the fingers by a chain instead of a rigid bar, as usual, as this being a flexible connection permits some of the fingers to swing horizontally without the others. In some connections, however, I may use the bar. Though the finger-supporting bar is here shown as a channel-iron, it may be otherwise formed, and the bearings for the vertical pivots of the fingers altered accordingly. It is also obvious that the feature of the upwardly-moving fingers may be used in connection with a supporting-bar which rocks on its own axis, instead of swinging bodily, as herein shown.

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

1. A sheaf-carrier having a finger-supporting bar pivoted at the side of the machine, a plurality of fingers projecting laterally from the bar, vertical pivots for the fingers, whereby they are adapted to swing sidewise, and a flexible connection between the several fingers, substantially as described.

2. A sheaf-carrier for binders, consisting of laterally-projecting fingers individually pivoted so as to turn rearward on a supporting-bar mounted in a swinging frame pivoted at its upper end so as to swing toward and from the side of the machine.

3. The combination of a binder with a sheaf-carrier, the latter consisting of a frame pivoted to the binder and carrying a finger-supporting bar in its lower part, from which project laterally a series of carrying-fingers, whereby the carrier in dumping swings inward under the binder.

4. A sheaf-carrier for binders, consisting of a frame pivoted at its upper end, a finger-supporting bar fixed in the lower part of the frame and carrying a set of fingers individually pivoted so as to swing rearward upon meeting any obstruction as the machine moves forward, and to move upward upon striking the ground or any obstacle from the under side.

5. A sheaf-carrier for binders, consisting of the channel-iron bar C, having perforations in its upper flange and slots transversely of its length in its lower flange, fingers D, having vertical pivotal portions *a* at their inner ends,

and cranks *d*, the latter being connected together by a chain, a spring *F*, connected to the chain and the bar, said bar being fixed in the lower ends of links pivoted at their upper ends, and means for swinging the links inward to dump the carrier.

6. The combination of a sheaf-carrier consisting of fingers projecting laterally from a supporting-bar, the latter being mounted in a frame so as to swing bodily in dumping, a supplemental discharger pivoted above the supporting-bar, a discharger-operating lever pivoted between its ends behind the discharger, its lower end extending within the path of the carrier as it moves inward in dumping and its upper end being arranged to strike the discharger and push the same outward, the pitman *G*, connecting the frame of the carrier with a crank on the shaft *g*, and the treadle *h*, substantially as described.

7. The combination of the links *B*, pivoted at their upper ends to the binder and carrying the channel-iron bar *C* at their lower ends, the fingers *D*, pivoted to the bar so as to move individually or collectively to the rear, means for holding them extended in receiving position, and means for permitting them to rise upon meeting an obstruction from the under side, the push-board *J*, pivoted at its upper end to the binder, the lever *I*, also pivoted to the binder and extending down behind the supporting-bar, the pitman *G*, the crank *f*, the shaft *g*, and the treadle *h*, all substantially as described.

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

ANSEL STEVENS.

Witnesses:

H. B. ZEVELY,
J. A. GOLDSBOROUGH.