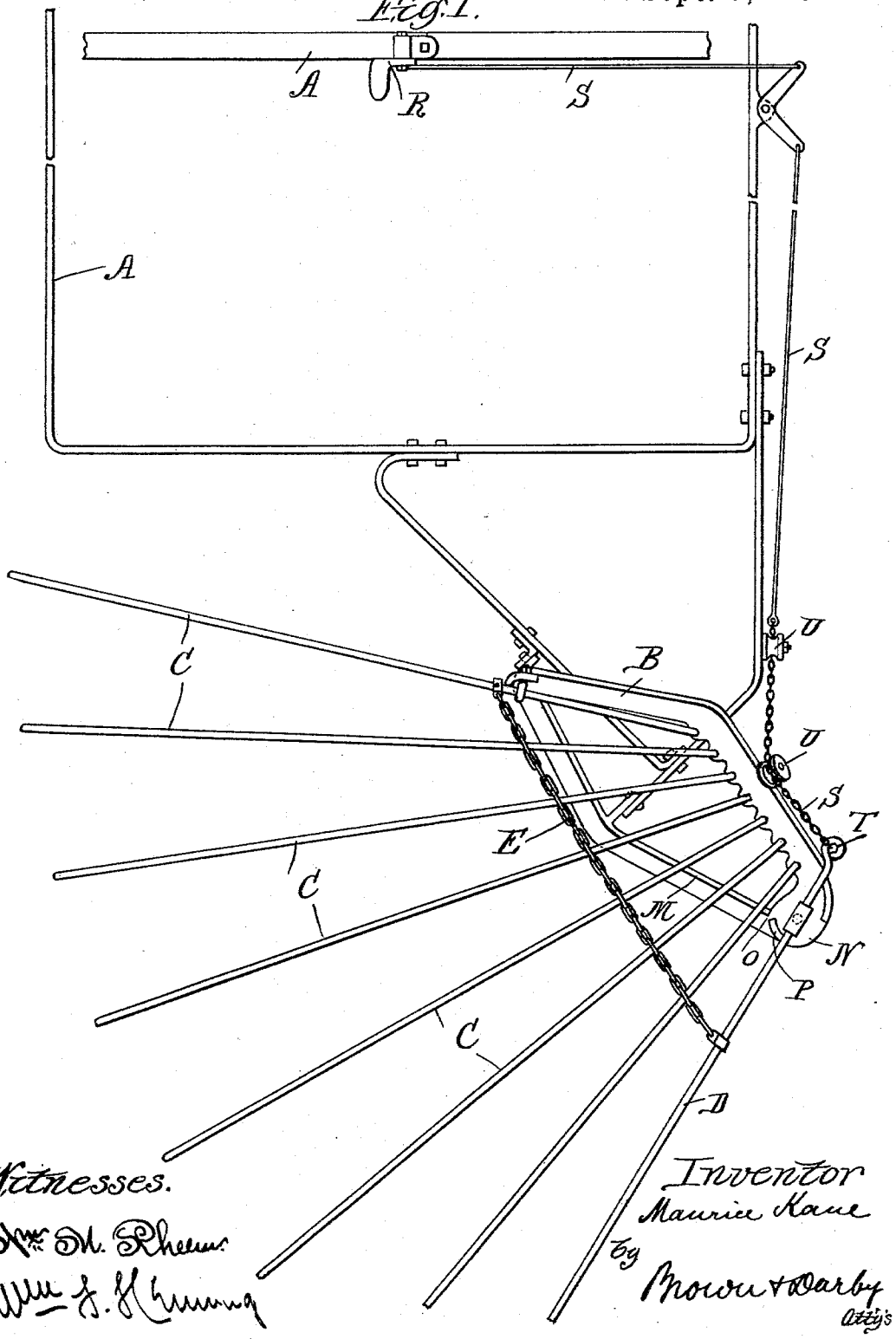
(No Model.) 2 Sheets—Sheet 1.

M. KANE.

BUNDLE CARRIER FOR HARVESTING MACHINES.

No. 589,657. Patented Sept. 7, 1897.

Fig. 1.



Witnesses.
Wm. M. Rheem
Wm. F. Hemming

Inventor
Maurice Kane
by Moore & Darby
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

M. KANE.

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Fig. 2.

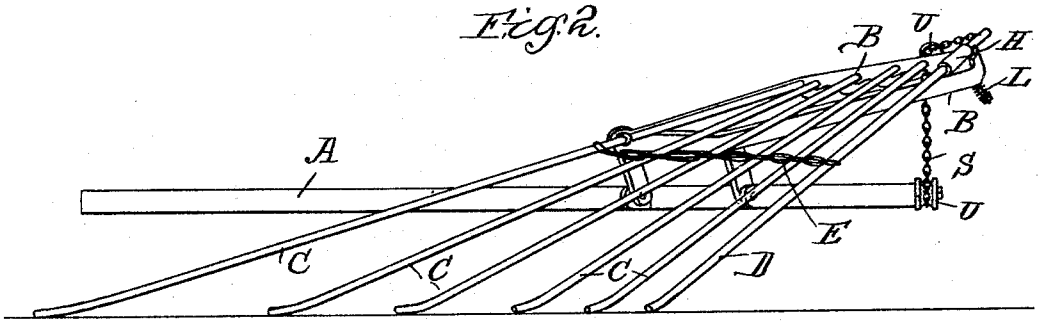


Fig. 3.

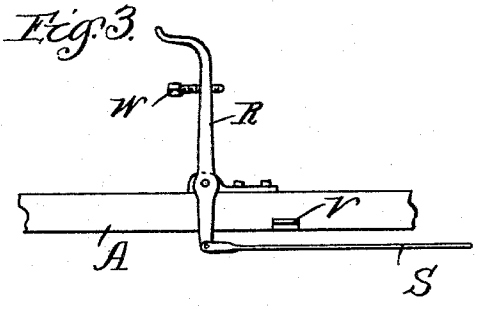


Fig. 4.

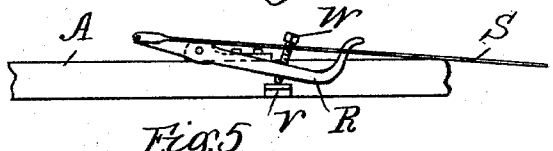
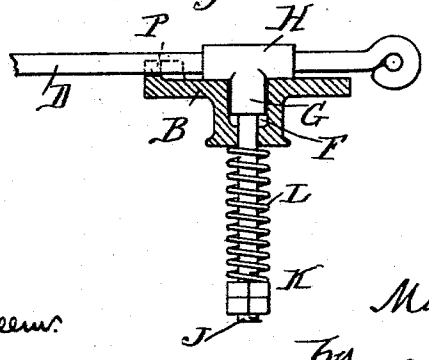


Fig. 5.



Witnesses.
Wm. M. Rheems.
Wm. F. Hunning

Inventor.
Maurice Kane
by Brown & Darby attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MAURICE KANE, OF AUSTIN, ILLINOIS.

BUNDLE-CARRIER FOR HARVESTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 589,657, dated September 7, 1897.

Application filed October 29, 1895. Serial No. 567,335. (No model.)

To all whom it may concern:

Be it known that I, MAURICE KANE, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a new and useful Bundle-Carrier for Harvesting-Machines, of which the following is a specification.

This invention relates to bundle-carriers for harvesting-machines.

The object of the invention is to simplify the construction of bundle-carriers and to render the same more efficient in operation.

The invention consists, substantially, in the construction, combination, location, and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and, finally, more specifically pointed out in the appended claims.

Referring to the accompanying drawings and to the various views and reference-signs appearing thereon, Figure 1 is a plan view of a portion of grain-binder frame, showing my improved bundle-carrier applied thereto. Fig. 2 is a view in elevation from the bottom of Fig. 1, the bundle-carrier shown in tilted position. Fig. 3 is a detailed view of the lever for operating the bundle-carrier attachment. Fig. 4 is a detail view of the construction shown in Fig. 3, parts being arranged in a different position. Fig. 5 is a detail view, parts in vertical section, of the manner of pivotally mounting the controlling-arm of the bundle-carrier.

The same part is designated by the same reference-sign whenever it occurs throughout the several views of the drawings.

Reference-sign A designates a portion of the frame of a grain-binder, upon which is mounted in any suitable way a tilting frame B.

C designates a series of bundle-supporting arms pivotally mounted in the tilting frame B, the outer arm D of the bundle-supporting arms being pivotally mounted in a special manner presently to be more fully described and for a purpose presently to be explained.

E designates a flexible connection between all of said arms of the bundle-carrier. This flexible connection may be of any suitable or convenient form; but in practice I prefer to employ the construction shown, wherein said flexible connection comprises a linked chain, through the links of which the bundle-supporting arms C are arranged to pass.

The tilting frame B is provided at the outer corner thereof with a suitably-perforated seat F, adapted to receive the lug G of a sleeve H, through which arm D passes, as clearly shown in Figs. 1 and 5. Through the perforation in the seat passes a bolt J, secured at one end in the lug G, carrying set-nuts K at the opposite end. Mounted upon the bolt J and interposed between nuts K and the under surface of frame B is a spring L, the tension of which may be adjusted by adjusting-nuts K. The action of the spring tends to hold sleeve H in its seat F, and consequently to hold arm D in any position to which said arm may be moved or rocked on a vertical axis at right angles to the direction of its length. The frame B is provided with a flange or rim M, cut away, as at N and O. The rim M forms a bearing for the arms C intermediate the ends thereof.

It will be seen from the foregoing description that when arm D is rocked about lug G as a pivot and upon a vertical axis at right angles to the direction of its length and in a direction to distend the arms of the bundle-carrier until the lug P, formed by the cut-away portions N O of the rim M, is cleared the spring L, while permitting said arm D to rock in the manner referred to, will cause said arm to drop down into cut-away portion N, the lug P thereby forming a stop to hold the carrier-arms distended, the spring L maintaining the arm D in this or its locked position, but yielding to permit a disengagement thereof with lug P when said arm D is rocked in a vertical plane. In a similar manner when the arm D is rocked about lug G as a pivot and upon a vertical axis and in a direction to close or fold the arms upon themselves, said arm D first being rocked vertically to disengage the same from lug P, it will encounter the cut-away portion O of rim M and will again be drawn down below the top surface of said rim M, thereby being held by spring L in a closed position.

When arm D is rocked in a direction to close the arms, it first engages the next adjacent arm, and continued movement thereof

successively engages the other arms constituting the carrier and folds the same closely and compactly against each other, and when said arm D is moved in a direction to distend the arms it will do so by reason of the flexible connection E. The flexible connection E may be sleeved upon the extreme outer and inner arms of the carrier, and therefore the amount to which said arms may be extended may be readily adjusted and regulated by moving the connection E by hand nearer to or farther from the ends of said arms, as will be readily apparent, and securing the same in adjusted position.

I will now describe means for operating the bundle-carrier. Mounted upon framework A of the grain-binder in any suitable or convenient location, but preferably in a position convenient to the foot of the driver, is a pivoted lever R, adapted to be engaged at one end by the foot of the operator and connected at its opposite end through any suitable connection, as at S, to the end of arm D, as at T. The connection S preferably comprises a flexible portion, as shown, arranged to pass over suitable guides U, by which it is given a proper direction of pull to effect a tilting of frame B and a rocking of arm D. By suitably manipulating pivoted lever R, which lever is pivoted intermediate its ends, the frame B may be tilted to raise or lower the arms C into position to receive the bundles from the grain-binder or to discharge the same. In the position shown in Fig. 3 the lever R occupies a position corresponding to the lower position of the arms C, as shown in Fig. 2—that is, to discharge the bundles. By tilting the lever toward the right from the position shown in Fig. 3 the lower arm of said lever effects a pull on connection S, thereby elevating the arms C into position to receive bundles from the machine. The lever R may be held in this position by the foot of the driver. I have devised a construction, however, whereby the driver is relieved of the weight that would necessarily come upon his foot as succeeding bundles discharged from the machine upon the bundle-carrier increases the weight imposed upon said carrier, wherein the lever R is tilted until the line of pull on connection S passes beyond the pivotal point of said lever R or past the dead-center thereof. By providing stop V upon the framework and mounting in the lever R a set-screw W, adapted to engage said stop, the weight of the pull is relieved from the driver, and by adjusting the set-screw W the line of pull on connection S may be regulated to just approach, coincide with, or pass the dead-center of pivotal point of said lever, as will be readily understood by reference to Fig. 4. It will be observed that arm D is mounted upon the extreme forward portion of frame B and that the guide U upon said frame B occupies a position rearwardly with respect to the end of arm D and that the guide U upon the main framework of the machine is in a lower horizontal plane than frame B. Therefore when a pull is exerted upon connection S by the driver the first effect will be to rock arm D about its pivot until said arm engages a stop or until the flexible connection E has been drawn taut—that is, when the arms of the carrier have been distended. Then further pull exerted upon connection S effects a tilting of frame B.

From the above description it will be seen that the construction is such as to permit the arms C to be raised and lowered to receive or discharge the bundles that the carriers can be distended to any desired degree or folded closely and compactly against each other and against the side of the machine-frame. This greatly facilitates the handling and transportation of the machine. The construction is simple, easily understood, and is economical in manufacture. The arms may be locked in their distended position or their folded position.

Many variations in the size and proportions of parts, details of construction, and relative location and arrangement of parts would readily suggest themselves to persons skilled in the art and still fall within the spirit and scope of my invention. I do not desire, therefore, to be limited to the exact details of construction and arrangement shown and described; but,

Having stated the object and purpose of my invention and having described a form of apparatus embodying the same and having explained the construction and mode of operation thereof, what I claim as new and of my own invention, and desire to secure by Letters Patent of the United States, is—

1. In a bundle-carrier, a frame, a series of bundle-supporting arms mounted therein, the extreme outer arm of the series provided with a spring-pressed pivot, a lug formed on the frame, adapted to lock said outer arm, connections between said outer arm and the other arms of the series, means for swinging said arm about its pivot; as and for the purpose set forth.

2. In a bundle-carrier, a series of supporting-arms, a frame in which said bundle-arms are mounted, said frame provided with a perforated seat, a sleeve through which the outer arm of said series is arranged to pass, said sleeve adapted to be received in said seat, a spring arranged to hold said sleeve to its seat, said frame provided with a cut-away rim, a flexible connection between the outer arm and the other arms of the series, means for swinging said arm; as and for the purpose set forth.

3. In a bundle-carrier, a tilting frame, a series of independently-mounted bundle-supporting arms, connections between said arms, one of said arms comprising a control bar or arm, said control-arm mounted upon the forward end of said tilting frame, a guide mounted upon said tilting frame and rearwardly

with respect to said control-arm, a guide upon the main frame, arranged in a lower plane than the guide upon the tilting frame, a control-lever and connections arranged to engage said guides and connected at opposite ends thereof with said control-arm and said lever; whereby when said lever is actuated said frame is tilted and all of said arms distended, as and for the purpose set forth.

4. The combination in a bundle-carrier, of a frame, a series of bundle-supporting arms pivotally mounted upon said frame, said frame being provided with a seat adapted to receive the pivot of the outermost of said arms, a spring arranged to press said pivot to its seat to hold the same in the position to which it may swing, means for positively swinging said extreme or outermost arm about its pivot, and an independent flexible connection between said outer arms of the series and each of the other arms of the series, as and for the purpose set forth.

5. The combination with a frame, a series of bundle-supporting arms independently mounted thereon, one of said arms being provided with a yielding pivot, a stop arranged in the path of swing of said arm to engage and hold the same in the position in which it may be rocked, means for positively swinging said arm about its pivot, an independent flexible connection between said arm and each of the other arms of the series, as and for the purpose set forth.

In witness whereof I have hereunto set my hand this 23d day of October, 1895.

MAURICE KANE.

Attest:
S. E. DARBY,
M. I. CAVANAGH.