

No. 640,599.

Patented Jan. 2, 1900.

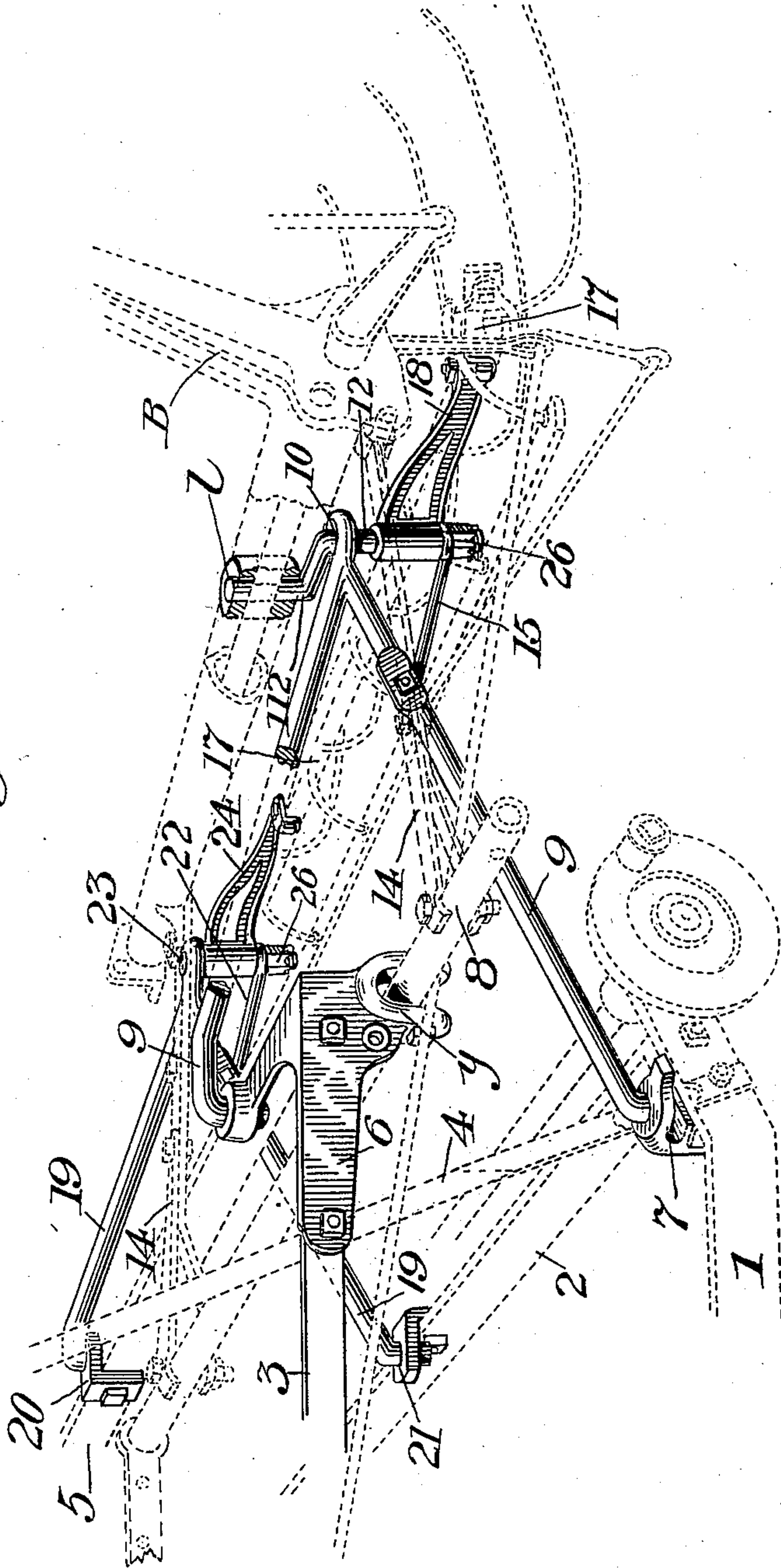
J. F. STEWARD & C. A. A. RAND.
SELF BINDER HARVESTER.

(Application filed Apr. 21, 1899.)

2 Sheets—Sheet 1.

(No Model.)

Fig. 1.



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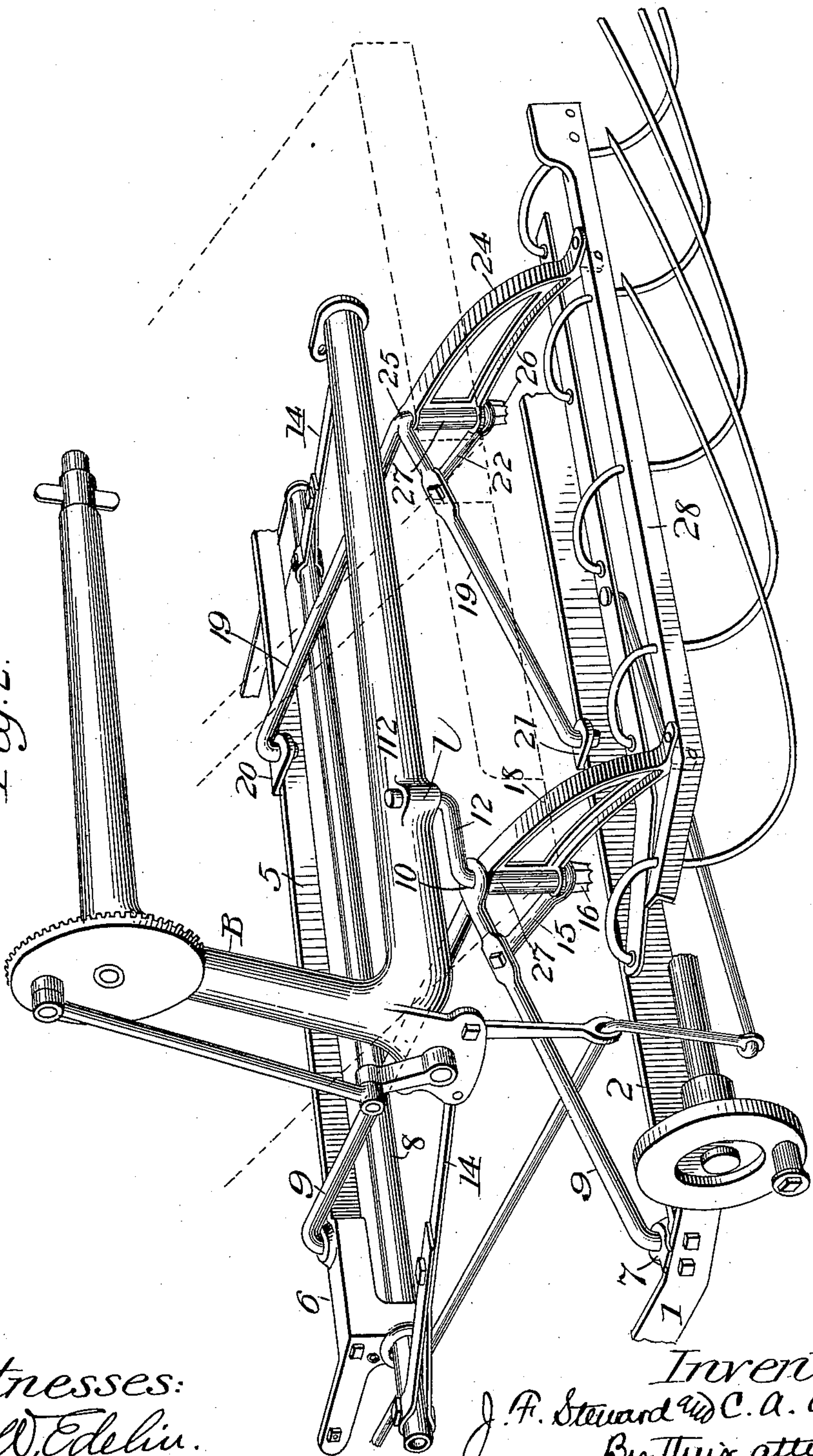
J. F. STEWARD & C. A. A. RAND.
SELF BINDER HARVESTER.

(Application filed Apr. 21, 1899.)

2 Sheets—Sheet 2.

(No Model.)

Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN F. STEWARD AND CHARLES A. ANDERSON RAND, OF CHICAGO,
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SELF-BINDER HARVESTER.

SPECIFICATION forming part of Letters Patent No. 640,599, dated January 2, 1900.

Application filed April 21, 1899. Serial No. 713,909. (No model.)

To all whom it may concern:

Be it known that we, JOHN F. STEWARD and CHARLES A. ANDERSON RAND, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Self-Binder Harvesters; and we 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.

The invention relates to the manner of supporting the binder attachment and the bundle-carrier from the frame of the machine, and has for its object to provide outhung swinging supports which will maintain the proper alinement of the parts, while allowing an increased amount of fore-and-aft adjustment, and which will permit said adjustment with less effort on the part of the driver.

The improvements are illustrated in the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a perspective view from the front of the machine looking outward, parts of the machine-frame, the binder, and the bundle-carrier being shown in dotted lines, and Fig. 2 is a similar view from the front looking inward, all the parts being in full lines.

It has not been deemed necessary to show the whole of the machine-frame or the binder or bundle-carrier, for the reason that there is no particular novelty in them so far as this application is concerned and they may be of any desired construction. Moreover, the improvements hereinafter claimed may be used with machines where these parts vary considerably in construction, and as shown herein they belong to a type of machine that has long been manufactured by the Deering Harvester Company and is known to the trade as the "Deering" machine.

Referring to the drawings, 1 denotes the front sill of the platform-frame; 2, the fore-and-aft cross-sill which connects the front and rear sills; 3, a horizontal bar extending outward from the elevator-frame on the front side; 4, one of the diagonal uprights of the elevator-frame, and 5 a fore-and-aft bar of

said frame which connects the front and rear horizontal bars at their outer ends and lies parallel with the cross-sill 2 at a higher level.

At the junction of the bars 3 and 5 at the front corner of the elevator-frame there is a strong bracket-casting 6, having a yoke γ and horizontal branches, to which are firmly bolted the ends of the bars. The usual gas-pipe 8, to which the binder-frame casting B is connected by straps 14 14 in the ordinary manner, is supported by and slides in this yoke as the binder is adjusted to and fro to suit different lengths of grain.

Secured to the front sill 1 at a point near its outer end is a bracket-casting 7, and in this and the bracket 6 and in substantially the same vertical plane are respectively the bearings for the lower and upper arms of a crane 9, the latter being formed substantially as shown in the drawings and having the inner ends of its two arms formed into journal-pins, which are seated in the bearings. The brackets 6 and 7 being some distance apart, the ends of the crane-arms are widely separated, and this gives the crane a wide supporting-base and enables it to carry the weight of the binder and bundle-carrier firmly and securely. The two arms of the crane gradually converge outwardly and unite at their outer ends, where there is formed an eye 10, and the relative length of the arms is such that the outer end of the crane stands on a level a little lower than the cross-bar 5.

The lower horizontal arm of the binder-frame casting B is provided with a lug or enlargement ι , having a vertical bearing in or through it, and the location of the lug is nearer the front heavier end of the frame and approximately at its center of gravity, so that the casting may be in a measure balanced on the support at this point.

The numeral 12 denotes a hinge-pin which is journaled in the eye 10 at the outer end of the crane 9, and the upper part of this pin is provided with a crank 112, whose upper end is journaled in the bearing in the lug ι on the frame-casting B. The lower end of the hinge-pin 12 has a bearing in an eye in the outer end of a brace 15, which is connected to the lower crane-arm at a point between its ends.

This gives the hinge-pin a long bearing and also serves another purpose, which will be presently explained in connection with the bundle-carrier.

5 Otherwise than by the mechanism thus far described the binder-frame and its casting are connected with the elevator-frame in the usual manner and adjusted fore and aft by well-known means. In moving to and fro under the action of the adjusting mechanism the gas-pipe 8 slides in its supports, (including the yoke *y*,) and as the frame-casting is supported by the outer end of the crane 9, which describes an arc in swinging, the cranked hinge-pin is interposed to allow the casting to maintain its necessary rectilinear movement, notwithstanding it is directly supported by a part that has a curvilinear movement.

20 No matter what the length of the grain is it is desirable that the bundle-carrier should preserve a constant relation to the binder, and in the present invention it is supported at its front end by the binder-crane above described and is given a similar crane of its own at the rear end, so that it moves with the binder as the latter is adjusted fore and aft. It not being necessary, however, that the bundle-carrier should move in an exactly straight line, as is the case with the binder, it is supported at the outer ends of the two cranes and swings with a sort of parallel-ruler movement as the binder is adjusted.

35 The crane for the rear end of the bundle-carrier is denoted by 19. It is shaped and constructed like the crane 9, which is primarily for the binder-casting, and the inner ends of its two arms are journaled in bearings 20 and 21, secured to the bar 5 and the fore-and-aft sill 2, respectively. At its outer end the crane 19 either has a downwardly-bent end 25, as shown in Fig. 2, with a diagonal brace extending therefrom to a point on the lower arm some little distance inward from its end and corresponding in all respects to the brace 15 on the crane 9, or has an eye similar to the eye 10 in the other crane, and a pintle 23 passed down through it and the outer end of the brace 22, as shown in Fig. 1, the lower extremity of the pintle or the turned-down end, as the case may be, being preferably threaded and secured in place by a lock-nut 26, while a similar lock-nut (not heretofore described) is used to secure the hinge-pin in its outer bearings, the lower end of the pin being also threaded to receive the nut.

60 In order to give the bundle-carrier the proper position relative to the outer edge of the binder-table, so as to receive the bundles therefrom, it is immediately supported by outstretching brackets 18 and 24, each having a sleeve 27 at its inner end, and the former being secured on the hinge-pin between the brace and the end of the crane 9 and the latter on the corresponding pin in the crane 19. These brackets are secured firmly in position

by screwing up the lock-nuts 16 and 26 and constitute extensions of their respective cranes. They are preferably of skeleton form, as shown in the drawings, and extend outwardly and droop downwardly, so as to give the bundle-carrier the proper elevation and lateral position relative to the binder-deck. At their outer ends the brackets are shaped to form seats for the main frame-bar 28 of the bundle-carrier, which is rigidly bolted to them.

Such being the construction and arrangement of the present improvements, it will be understood that the binder and bundle-carrier are outhung on swinging supports from the frame of the machine and that as the binder is adjusted for grain of different lengths the cranked hinge-pin compensates for the curvilinear movement of the binder-crane and allows the latter to move in a straight line; also, that the bundle-carrier moves concurrently with the binder and is always in the proper position to receive the bundles from the deck. The arrangement allows of an increased movement of the binder and carrier, and permits both to be moved with less effort than heretofore. The underneath part of the binder is also left free, so that free access to the parts can be had, and both binder and carrier are readily attached and detached.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a self-binder, the combination with the harvester-frame, of a horizontally-swinging crane pivoted at its inner end to the frame, and a binder frame or casting connected near its heavier end to and supported by the outer end of the crane.

2. In a self-binder the combination with the harvester-frame, of a swinging crane pivoted at its inner end to the frame, a binder frame or casting, and a connection between the crane and the binder-casting whereby the latter is supported and allowed to move in a straight line as the crane swings.

3. In a self-binder, the combination with the harvester-frame, of a swinging crane pivoted at its inner end to the frame, a binder frame or casting, and a cranked hinge-pin interposed between the casting and the crane and pivotally connected with each.

4. In a self-binder, the combination with a base-sill of the frame, and a horizontal cross-bar of the elevator-frame, of a bifurcated crane, the inner ends of whose arms are pivoted to said sill and bar respectively, a binder frame or casting, and a cranked hinge-pin journaled in the outer end of the crane, and pivotally connected to the binder-casting near its heavier end, whereby the weight of the binder is supported by the crane and it is allowed to move in a straight line as the crane swings.

5. In a self-binder, the combination with the harvester-frame, of a swinging crane piv-

oted at its inner end to the frame near its front corner, a binder frame or casting pivotally connected with and supported by the outer end of the crane, a similar crane piv-
5 oted at its inner end to the harvester-frame near the rear end, and a bundle-carrier connected to and supported by the outer ends of said cranes.

6. In a self-binder, the combination with
10 the harvester-frame, of a swinging crane pivoted at its inner end near the front corner of the frame, a similar crane likewise pivoted to the frame near the rear, a binder frame or casting, a cranked hinge-pin journaled in
15 the outer end of the front crane and pivotally connected with the casting near its heavier end, bracket-arms projecting outwardly from the ends of the cranes, and a bundle-carrier secured to and supported by said
20 arms.

7. In a self-binder, the combination of the sill 1 and the cross-bar 5, of the crane 9 whose bifurcated arms are pivoted to said sill and bar, the binder frame or casting, and the
25 cranked hinge-pin 12 pivotally connected to the casting and journaled in the outer end of

the crane so as to allow the casting to move in a right line.

8. In a self-binder, the combination of the swinging crane 9, the binder frame or cast- 30 ing, the cranked hinge-pin 12 journaled in the outer end of the crane and pivotally connected to the casting, the bracket-arm 18 secured to the outer end of the crane, and a bundle-carrier the front end of which is se- 35 cured to and supported by the arm.

9. In a self-binder, the combination of the swinging cranes 9 and 19, the binder frame or casting, the cranked hinge-pin 12 jour- 40 naled in the outer end of the frame 9 and pivotally connected to the casting, a bundle-carrier and bracket-arms 18 and 24 projecting respectively from the cranes 9 and 19 and supporting the carrier.

In testimony whereof we affix our signa- 45 tures in presence of two witnesses.

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Witnesses:

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