

No. 782,431.

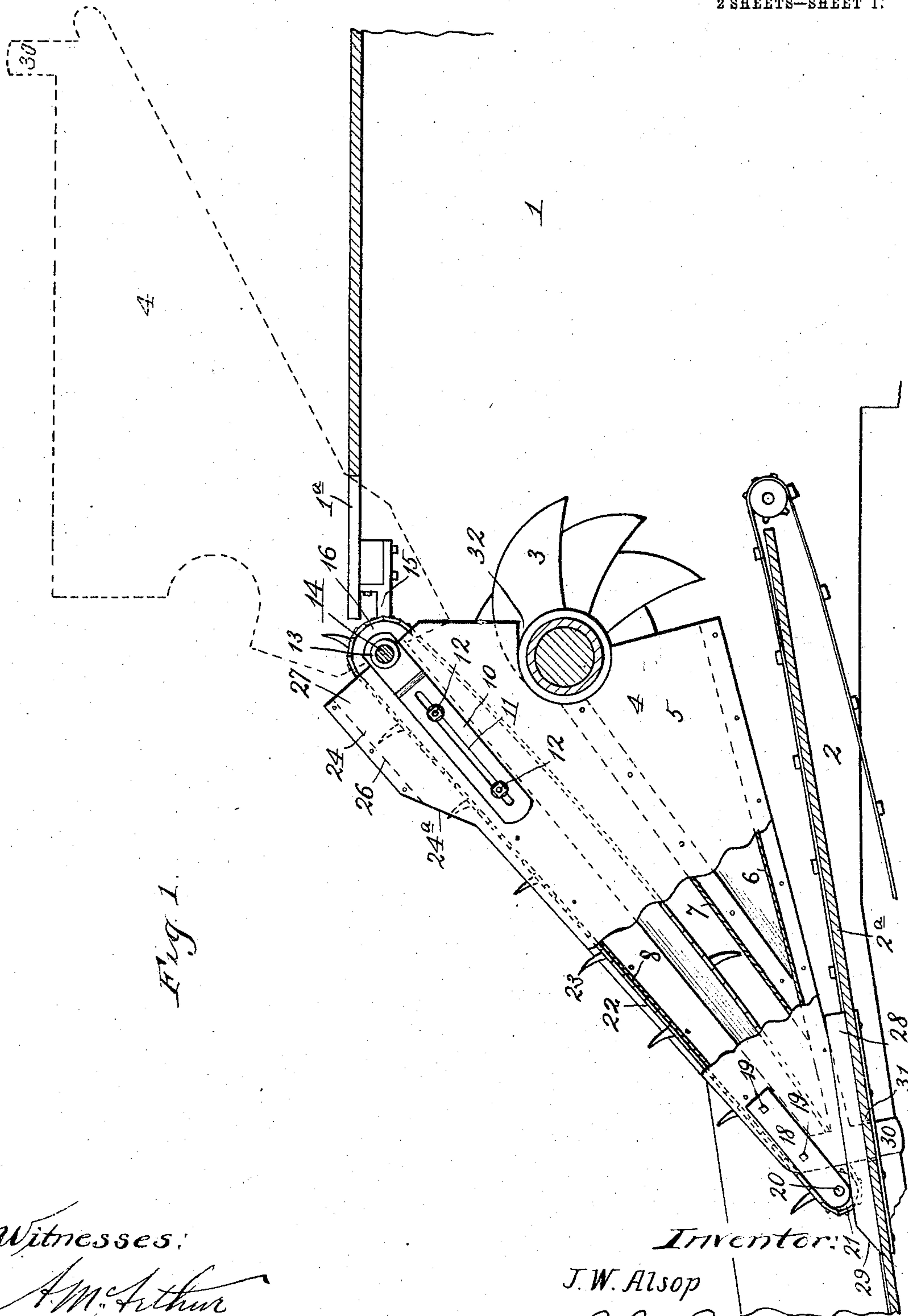
PATENTED FEB. 14, 1905.

J. W. ALSOP.

BUNDLE STRAIGHTENER FOR SEPARATORS.

APPLICATION FILED AUG. 1, 1904.

2 SHEETS--SHEET 1.



Witnesses:

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Inventor:

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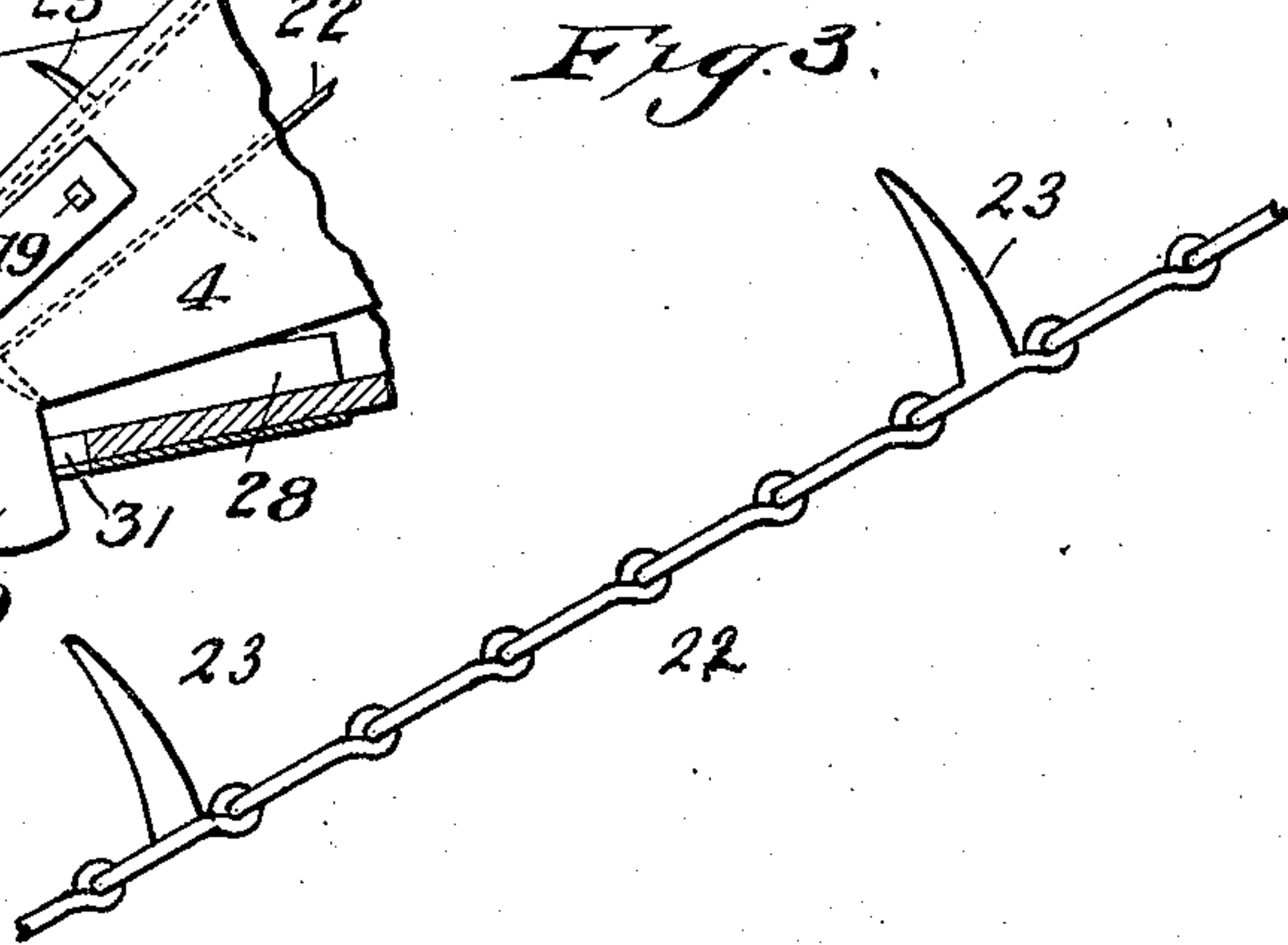
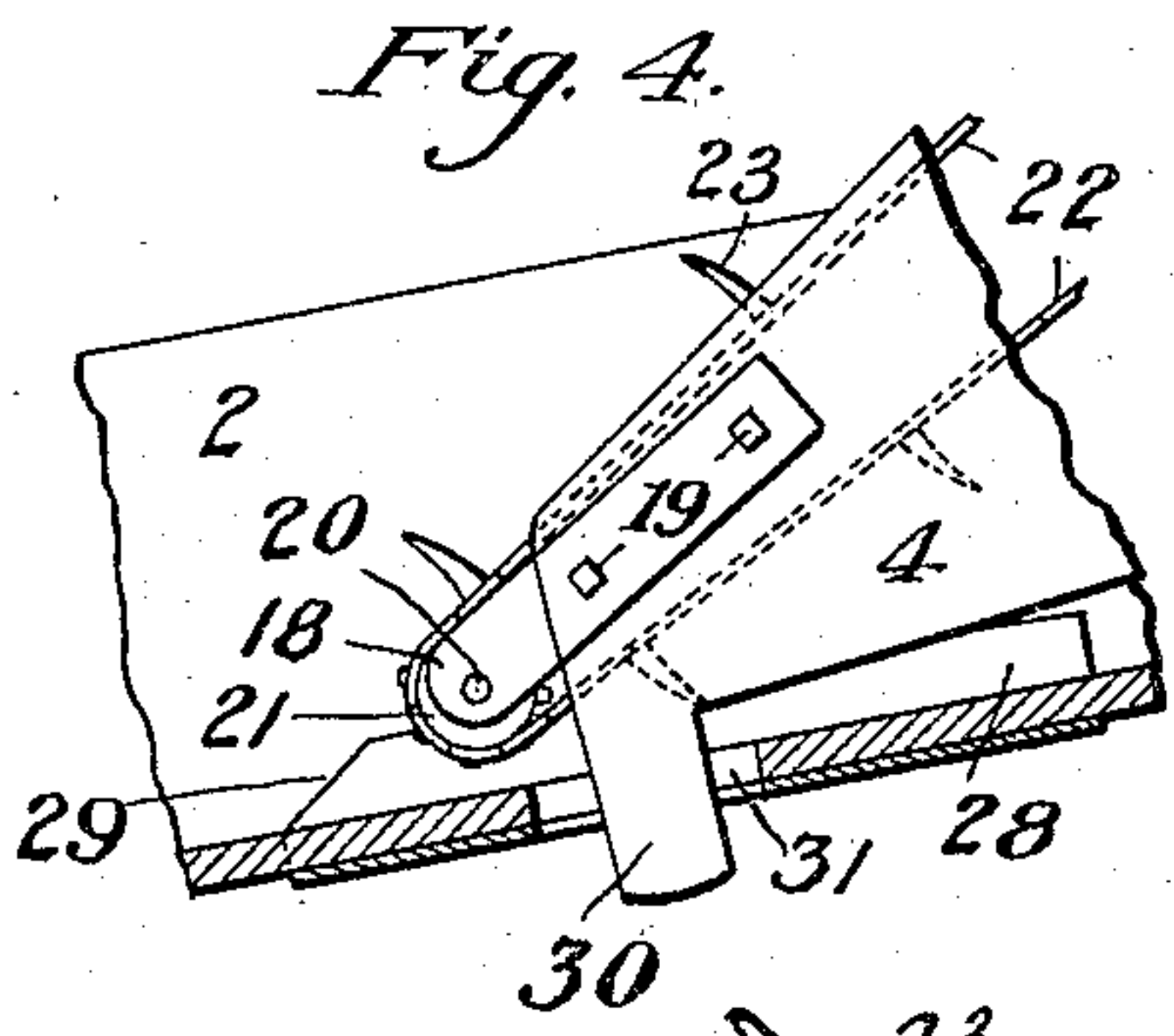
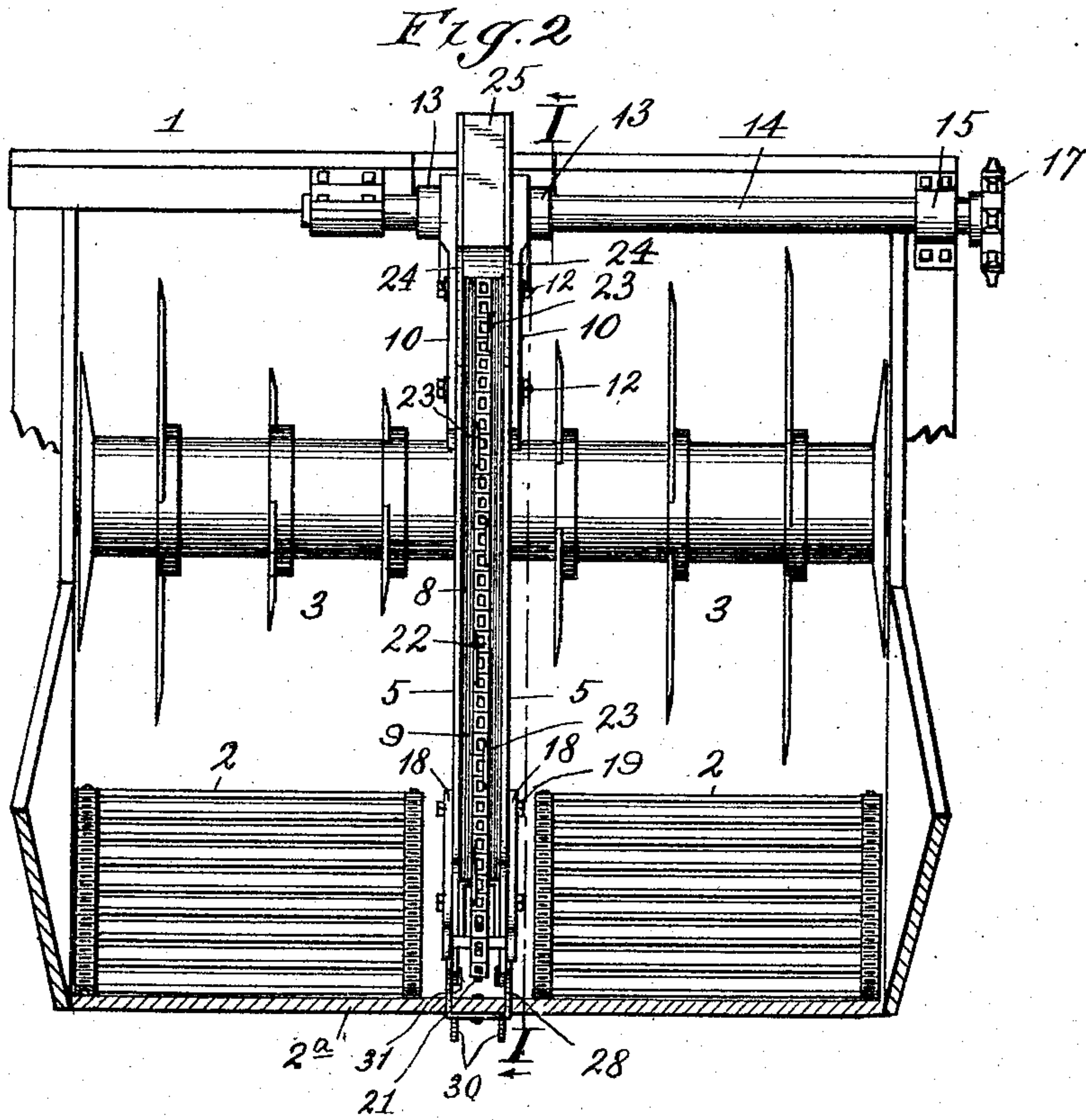
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Witnesses:

A. M. Fisher
J. Moore

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN WILLIAM ALSOP, OF BELOIT, KANSAS, ASSIGNOR OF ONE-HALF TO
CHARLES W. SELLERS, OF BELOIT, KANSAS.

BUNDLE-STRAIGHTENER FOR SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 782,431, dated February 14, 1905.

Application filed August 1, 1904. Serial No. 219,130.

To all whom it may concern:

Be it known that I, JOHN WILLIAM ALSOP, a citizen of the United States, residing at Beloit, in the county of Mitchell and State of Kansas, have invented certain new and useful Improvements in Bundle-Straighteners for Separators, of which the following is a specification.

My invention relates to improvements in bundle-straighteners for separators; and my object is to provide means for straightening out bundles of grain, so they will pass from the separator-carrier to the feeder end first in order that said feeder may properly perform its work of cutting the bands, distributing the grain, and feeding it in a uniform manner to the threshing-cylinder.

The invention consists in the novel construction, arrangement, and combination of parts hereinafter described, and pointed out in the claims, and in order that it may be fully understood reference will now be made to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section taken on line I I of Fig. 2, showing my bundle-straightener in an operative position on the upper front portion of a separator. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged broken detail view of a portion of a sprocket-chain forming part of the invention. Fig. 4 is a broken side elevation of the lower forward end of the bundle-straightener frame, showing the depending arms thereon extending through the slotted bottom of the carrier.

In said drawings, 1 designates the front upper portion of a separator.

2 designates the carrier for conducting the grain from the stack to the feeder, and 3 designates the band-cutter forming part of said feeder.

4 designates the frame of my invention, composed, preferably, of sheet metal and comprising a pair of parallel side plates 5, connected side by side with longitudinal stays 6, 7, and 8, having depending flanges riveted to the side plates 5, as shown in Fig. 1. Frame 4 is substantially triangular in form, so that its upper surface will have sufficient

pitch to ordinarily prevent the lodgment of bundles, and its under side will extend close enough to the carrier to prevent the bundles from rolling beneath said frame and getting sidewise on the carrier after they have been placed lengthwise on the latter. Stay 8 is secured a short distance below the upper inclined edges of the side plates in order to form a channel 9 for a purpose hereinafter described.

10 designates a pair of arms having longitudinal slots 11 for the reception of bolts 12, whereby frame 4 is adjustably secured to said arms. The upper ends of arms 10 have integral boxes 13, through which a transverse shaft 14 extends. Said shaft is journaled in boxes 15, secured to the upper portion of the separator-frame and provided with rigidly-mounted sprocket-wheels 16 17, which latter drive said shaft.

18 designates a pair of arms secured to the lower ends of side plates by bolts 19.

20 designates a short transverse shaft journaled in the lower ends of arms 18 and carrying a small sprocket-wheel 21, driven by sprocket-wheel 16 through the instrumentality of an endless sprocket-chain 22, armed with equally-spaced teeth 23. The upper strand of sprocket-chain 22 operates in channel 9, the bottom portion of which latter prevents said strand from sagging and permitting teeth 23 to sink below the upper edges of the side plates before they arrive at the inclosed portion formed by the upward extensions 24 at the upper ends of the side plates and a transverse cover 25, having marginal flanges 26, riveted to the upper portions of said extensions. Sprocket-chain 22 is kept comparatively taut by adjusting frame 4 longitudinally on arms 10, and its lower strand extends through a passage-way 27, formed by stays 7 and 8 and the side plates. The lower ends of arms 18 rest upon guides comprising a pair of united strips 28, secured to the floor 2^a of the carrier and provided with beveled front ends 29, which elevate the bundles that contact therewith, and thus prevent said bundles from passing beneath sprocket 21 and frame 4. Guides 28 are arranged midway between the

rear portions of two slatted conveyers forming carrier 2.

30 designates a pair of depending arms secured to the lower front ends of side plates 5 and extend through slots 31 in the bottom of the carrier when frame 4 is in a lowered position in order to prevent the forward end of said frame from being deflected laterally by bundles contacting therewith. Slots 31 are longer than the width of arms 30 to permit the longitudinal adjustment of frame 4 on arms 10. The rear ends of side plates 5 have marginal recesses 32 to avoid contacting with the band-cutter shaft 33 when the frame is in a lowered position.

In practice frame 4 is lowered to the position shown in full lines, Fig. 1. Sprocket-chain 22 is then set in motion by the rotation of sprocket-wheel 17, which may be driven from either the separator or the traction-engine through the instrumentality of a sprocket-chain. (Not shown.) The bundles are then thrown upon carrier 2, which conducts them to the feeder. In their passage to the feeder all bundles which have been thrown crosswise or at an angle upon the carrier will contact with sprocket-chain 22, which travels at a much higher rate of speed than the carrier-belt, so that teeth 23 will engage said bundles and elevate them until they drop upon one side or the other of frame 4 end first, in which position they will be carried to the feeder.

Should the central portion of a bundle lying crosswise upon the carrier contact with chain 22, one of the teeth on the latter might engage and carry said bundle to the top of the separator if it were not for said bundle sliding upwardly out of engagement with said tooth on contacting with the beveled front edges 24^a of extensions 24. However, as frame 4 is quite narrow said bundle would in all probability fall to one side or the other before it was carried half-way up to the beveled edges 24^a. The narrowness of frame 4 also brings the sides of channel 9 so close to the upper strand of chain 22 that said strand cannot be pushed sidewise far enough to effect the proper operation of said chain if bundles should hang to teeth 23 or be pitched against the sides thereof.

When "headed" or loose grain is being fed to the carrier, frame 4 and its attachments are swung upwardly to the position shown in dotted lines, Fig. 1, a central slot 1^a in the top of the separator permitting this movement.

From the above description it is apparent that I have produced an apparatus which will reliably turn bundles in the proper position for the thresher-feeder, so that care need not be taken in placing said bundles upon the carrier. Consequently an automatic feeder for the carrier may be employed to advantage when used in conjunction with my apparatus.

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

1. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of an inclined frame resting at its lower front end upon the rear central portion of the carrier and pivoted at its upper end to the separator in order that it may be swung upwardly from said carrier, driven wheels mounted at the opposite ends of said frame, an endless cable connecting said wheels, and teeth projecting from said cable.

2. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of a pair of arms suitably secured at their upper ends to the separator, an inclined frame adjustably secured at its upper end to said arms and resting at its lower front end upon the rear central portion of the carrier, suitably-driven wheels mounted at the opposite ends of said frame, an endless cable connecting said wheels, and teeth secured to said cable.

3. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of a pair of slotted arms pivoted at their upper ends to the separator, an inclined frame adjustably secured at its upper end to the slotted portions of said arms and resting at its lower front end upon the rear central portion of the carrier, suitably-driven sprocket-wheels mounted at the opposite ends of said frame, an endless sprocket-chain connecting said sprocket-wheels, and teeth secured to said chain.

4. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of an inclined frame suitably secured at one end to the separator and resting at its opposite end upon the rear central portion of the carrier, said frame having a channel in its upper side, suitably-driven wheels mounted at the opposite ends of said frame, an endless cable connecting said wheels the upper strand of which extends through the channel, and teeth on said cable which project above the sides of said channel.

5. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of an inclined frame secured at its upper end to the separator and resting at its lower end upon the rear central portion of the carrier, said frame having a channel in its upper side, extensions on the upper portions of the sides of said channel having beveled front edges, suitably-driven wheels mounted at the opposite ends of said inclined frame, an endless cable connecting said wheels, and teeth on said cable which project above the sides of the channel but are lower than the extensions.

6. The combination with a separator, bear-

ings secured to the upper portion thereof, and a transverse shaft journaled in said bearings, of a pair of arms pivoted at their upper ends to said shaft, a frame adjustably secured to
5 said arms having an inclined upper portion, a sprocket-wheel journaled in the lower portion of said frame, a sprocket-wheel mounted on said transverse shaft, an endless sprocket-chain connecting said sprocket-wheels, and
10 teeth secured to said sprocket-chain.

7. The combination with a separator, a carrier arranged at one end thereof, and a slotted bottom forming part of the carrier, of a frame pivoted at one end to the separator, arms de-
15 pending from the opposite end of said frame adapted to extend through the slots in the carrier-bottom, suitably-driven wheels carried at the opposite ends of said frame, an endless cable connecting said wheels, and teeth on
20 said cable.

8. The combination with a separator, a carrier arranged at one end thereof, and a bottom forming part of the carrier, of guides comprising a pair of united strips secured to the car-
25 rier-bottom having beveled front ends, a frame secured at its upper end to the separator and resting at its lower end upon said guides,

wheels mounted in the opposite ends of said frame, an endless cable connecting said wheels, and teeth secured to said cable. 30

9. The combination with a separator and a carrier arranged at one end thereof, of a bundle-straightener consisting of an inclined frame comprising a pair of triangular side plates secured at their upper ends to the sep- 35 arator and resting at their lower ends upon the rear central portion of the carrier, and longitudinal stays connecting said side plates, one of said stays being secured near the upper edges of the side plates to form in conjunction 40 therewith a channel; suitably-driven wheels mounted at the opposite ends of said frame, an endless cable connecting said wheels the upper strand of which extends through the channel while the lower strand extends through a 45 passage-way in the frame, and teeth on said cable.

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

JOHN WILLIAM ALSOP.

Witnesses:

LEWIS WARD,
J. E. STILLEY.