

No. 742,141.

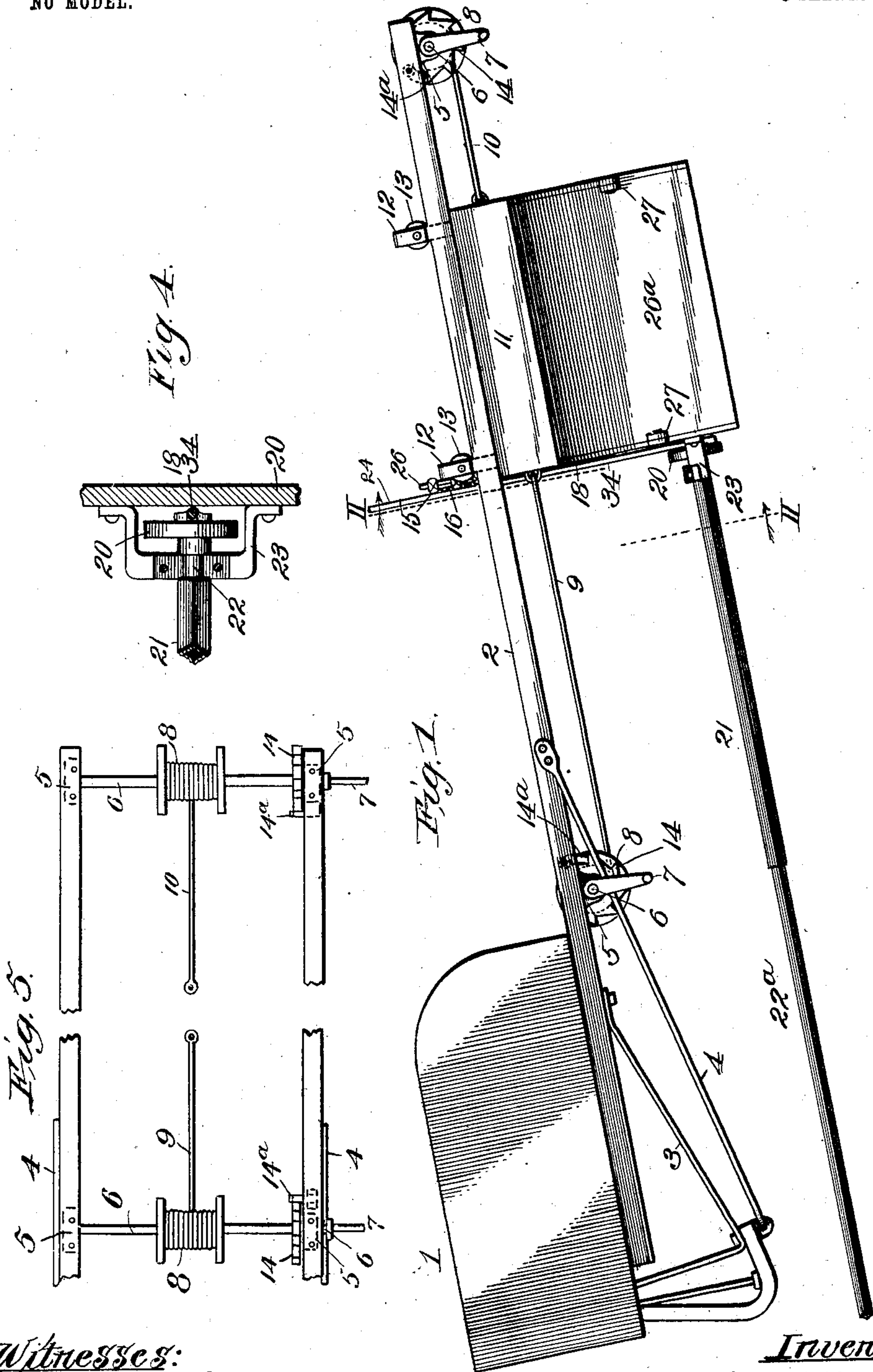
PATENTED OCT. 20, 1903.

J. L. WILLIAMS & E. W. ARRASMITH.
CORN HEADING ATTACHMENT FOR BINDERS.

APPLICATION FILED NOV. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

A. McArthur

H. B. Rodgers

Inventors:

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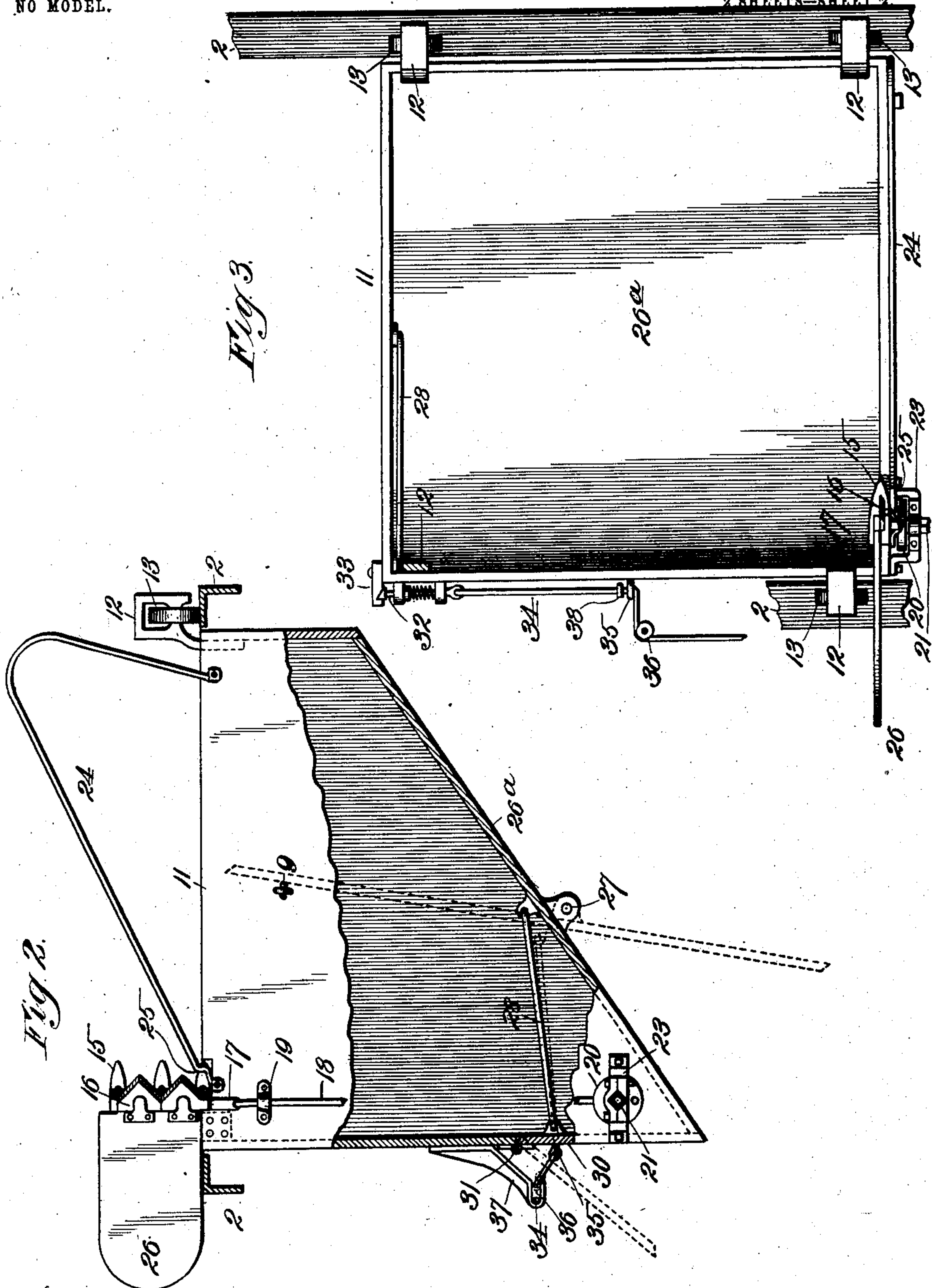
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UNITED STATES PATENT OFFICE.

JASPER L. WILLIAMS, OF OLATHE, AND ERNEST W. ARRASMITH, OF STANLEY, KANSAS; SAID ARRASMITH ASSIGNOR OF ONE-HALF HIS RIGHT TO SAID WILLIAMS.

CORN-HEADING ATTACHMENT FOR BINDERS.

SPECIFICATION forming part of Letters Patent No. 742,141, dated October 20, 1903.

Application filed November 3, 1902. Serial No. 129,947. (No model.)

To all whom it may concern:

Be it known that we, JASPER L. WILLIAMS, residing at Olathe, and ERNEST W. ARRASMITH, residing at Stanley, in the county of Johnson and State of Kansas, citizens of the United States, have invented certain new and useful Improvements in Corn-Heading Attachments for Binders, of which the following is a specification.

Our invention relates to corn-binders, and more especially to a corn-heading attachment therefor; and our object is to produce a machine of this character whereby as the bundle is formed the corn will be topped and the heads collected in a box from which they may be dumped at will by the driver without requiring him to stop the binder or descend from his seat thereon.

A further object is to produce an attachment of this character whereby the box is adjusted toward or from the binder, so as to accommodate Kafir or broom corn or sorghum of varying lengths.

A still further object is to produce an attachment capable of use in connection with any side-delivery binder, and which is of simple, strong, and inexpensive construction.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a part of a corn-binder and of our attachment arranged in conjunction therewith. Fig. 2 is an enlarged cross-section taken on the line II II of Fig. 1. Fig. 3 is a top plan view of the box portion of the attachment and showing, broken away, the supporting-track therefor. Fig. 4 is a horizontal section, on an enlarged scale, to show more clearly the relation between the box and the shaft journaled thereon for transmitting motion from the binder to the corn-heading mechanism. Fig. 5 is a plan view of the track, broken away at its middle and provided near its opposite ends with mechanism for adjusting the box or receptacle and locking it at the desired point on the track.

Referring to the drawings in detail, 1 designates the rear portion of a side-delivery corn-binder of any suitable construction, and 2 a pair of parallel angle-rails projecting rearwardly from the binder and braced by braces 3 4 or in any other suitable or preferred manner. These rails form a track and near the binder and at their rear ends are provided with bearing-boxes 5, in which are journaled cross-shafts 6, having crank-handles 7 and reels 8, the front and rear reels being, respectively, connected by cables 9 and 10 with a box 11, suspended from and within said track, brackets 12, secured to the box and equipped with rollers 13 to travel on the track, being provided that the box may be moved forwardly or rearwardly with practically no friction, and in order that the box shall not accidentally travel on the track shafts 6 are equipped with ratchet-wheels 14, which are engaged by gravity-pawls 14^a, mounted on the contiguous rails of the track. When it is desired to operate the crank-handle of the front reel, and thereby draw the box 11 forwardly, the rear pawl is thrown to inoperative position, so as to permit the corresponding reel to operate. When it is desired to move the box rearwardly, the front pawl is disengaged from its ratchet, so that as the rear pawl is operated the front one shall operate in reverse direction, as will be readily understood.

For the purpose of heading the corn and causing the heads to drop into the box we provide a vertical cutting mechanism at the front edge and near the right-hand corner of the box as viewed from the rear, the cutting mechanism being in approximate alinement with that part of the binder where the bundle is formed and tied. This cutting mechanism may be of any suitable type, but that which we prefer is in the form of the cutting mechanism of a mower, the guard-fingers being numbered 15 and the sickle-bar 16, the latter being provided with a depending arm 17, pivotally connected to the upper end of a rod 18, said rod being guided at its upper end through a clip 19 and wristed at its lower end in the usual manner to the disk 20. Said disk is secured upon the rear end of the an-

gular and tubular shaft 21, having a cylindrical portion 22 journaled in bracket 23, secured to the box. Said shaft fits telescopically upon a smaller shaft 22^a, the latter being geared in any suitable manner (not shown) to the binder. This construction constitutes a shaft which operates without regard to the position of box 11 and whether said box is being adjusted or not.

In the operation of the side-delivery binder the corn with its head projecting rearwardly is thrown down from approximately a vertical position to a position approximately parallel with said track and nearer to the left-hand rail thereof than to the right. The binder contains mechanism to shift the butt-end of the corn to the right in order that it may be properly bundled and tied, and to cooperate with this shifting mechanism so as to insure that the stalk is headed we provide a deflector in the form of a wire frame 24, this deflector tending to deflect the headed end of the corn to the right and in the path of operation of the sickle-bar, and in order to insure that each stalk is cleanly headed at the proper time this frame contiguous to the sickle is formed with a vertical shoulder 25, which holds the stalk and prevents any chance of its being pushed aside instead of being cleanly cut by the downstroke of the sickle-bar, the guard-fingers preventing the dislodgment of the stalk in the upstroke of said bar.

26 designates a vertical guide-board extending transversely and from the cutting mechanism over the right-hand rail of the track. This guide-board is to assist the carrier of the binder in holding the ends of the stalks even as the bundle is thrown upon the ground.

For the purpose of effecting the deposit of the heads collected in the box when desired and near the path of the right-hand wheel of the binder, and therefore in a position where they will be out of the way on the next passage of the latter, the bottom 26^a of the box slopes downwardly at an angle approximating forty-five degrees from left to right and is pivoted to the right of its center, as shown at 27. To the left of its center or at its highest side it is linked, as at 28, to the side door 30, hinged, as at 31, to and forming the lower part of the right-hand side of the box. By this arrangement it will be seen that the opening of door 30 is accompanied by a tilting movement of the bottom and that such operation can be effected with practically no exertion on the part of the operator because of the fact that the greater part of the weight of the contents of the box is imposed on that portion of the tilting bottom below and to the right of its oscillating point. On the other hand, it is obvious that reclosure is effected automatically because of the fact that such is the gravitative tendency of both the bottom and the door. To lock such parts in their closed positions and prevent accidental discharge of the contents of the box, the door 30 carries

a spring-actuated bevel-end bolt 32 of ordinary type and normally in engagement with the notched bar 33, secured to the rear side of the box, (see Fig. 3,) this bolt automatically engaging said bar and locking the parts closed under the gravitative action of the same, the spring yielding as the bolt contacts with the bar and readvancing the former as it registers with the notch of the bar. To withdraw the bolt to open the door and tilt the bottom, and thus effect the discharge of the contents of the box, a cable 34 is attached to the bolt and extends through a guide-loop 35, secured to the door about midway its length, and around a horizontal pulley 36, disposed outward of the door a suitable distance and journaled in a bracket 37, depending from the right-hand side of the box. From said pulley the cable extends forwardly to a point within reach of the driver upon the seat on the binder, who by drawing said cable forwardly in any manner first unlocks the door by the withdrawal of the bolt 32 from engagement with bar 33 and then by the same movement causes collar 38 on cable 34 to be arrested by contact with guide-loop 35, and thus cause the door 30 to swing open and the bottom 26^a to tilt, as explained. By relaxing the tension on the cable the door and bottom automatically resume their original positions.

Before beginning to harvest with this attachment in place the reels are manipulated to dispose the box the proper distance from the binder, the box being closer to the binder when cutting Kafir corn than when cutting broom-corn. When cutting sorghum, it is usually disposed a greater distance from the binder than when cutting either Kafir or broom corn. This adjustment incidentally enables crops of a similar kind, but of different degrees of growth, to be accommodated.

From the above description it will be apparent that we have produced a corn-heading attachment for binders which embodies the features of advantage enumerated as desirable in the statement of invention and which may obviously be modified in various particulars without departing from the principle or scope or sacrificing any of the advantages of the invention.

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

1. The combination with a corn-binder, of a heading attachment carried thereby and comprising means to catch the heads when severed from the corn, and a cutting mechanism at the front edge of said means to sever the heads so that they shall drop upon said means.

2. The combination with a corn-binder, of a heading attachment carried thereby and comprising means to catch the heads when severed from the corn, and a cutting mechanism at the front edge of said means to sever the heads so that they shall drop upon said

means, and means for shifting the first-named means and the cutting mechanism toward or from the binder to cut stalks of different lengths.

5 3. The combination with a corn-binder, of a heading attachment disposed rearwardly of the binder, and comprising a box, means for adjusting the box toward or from the binder, and a cutting mechanism carried by the box.

10 4. The combination with a corn-binder, of a heading attachment disposed rearwardly of the binder, and comprising a box having a door by which its contents can be discharged, and a cutting mechanism to sever the heads
15 of the corn from the stalks and permit them to drop into the box.

20 5. The combination with a corn-binder, of a heading attachment disposed rearwardly of the binder, and comprising a box having a door by which its contents can be discharged, a tilting bottom linked to and coöperating with said door, and a cutting mechanism to sever the heads of the corn from the stalks and permit them to drop into the box.

25 6. The combination with a corn-binder and a track projecting rearwardly therefrom, of an adjustable box on said track and equipped with cutting mechanism.

30 7. The combination with a corn-binder and a track projecting rearwardly therefrom, of

an adjustable box on said track, a tilting bottom for the box, means for operating said bottom, and a cutting mechanism to sever the heads of the corn from the stalks so that such heads shall drop into the box.

35 8. The combination with a corn-binder, and a track projecting rearwardly therefrom, of a box adjustable on said track, provided with a tilting bottom, a door linked thereto, means for operating the same, and a cutting mechanism to sever the heads of the corn from the stalks so that such heads shall drop into the box.

40 9. The combination with a corn-binder having a driven shaft and a supporting-track, a box adjustable on said track and having a shaft driven by and having a slidable connection with the driven shaft, and a cutting mechanism on the box and geared to its shaft.

45 In testimony whereof we affix our signatures in the presence of two witnesses.

JASPER L. WILLIAMS.
ERNEST W. ARRASMITH.

Witnesses for Williams:

GEO. ARRASMITH,
H. C. RODGERS.

Witnesses for Arrasmith:

GEORGE Y. THORPE,
H. C. RODGERS.