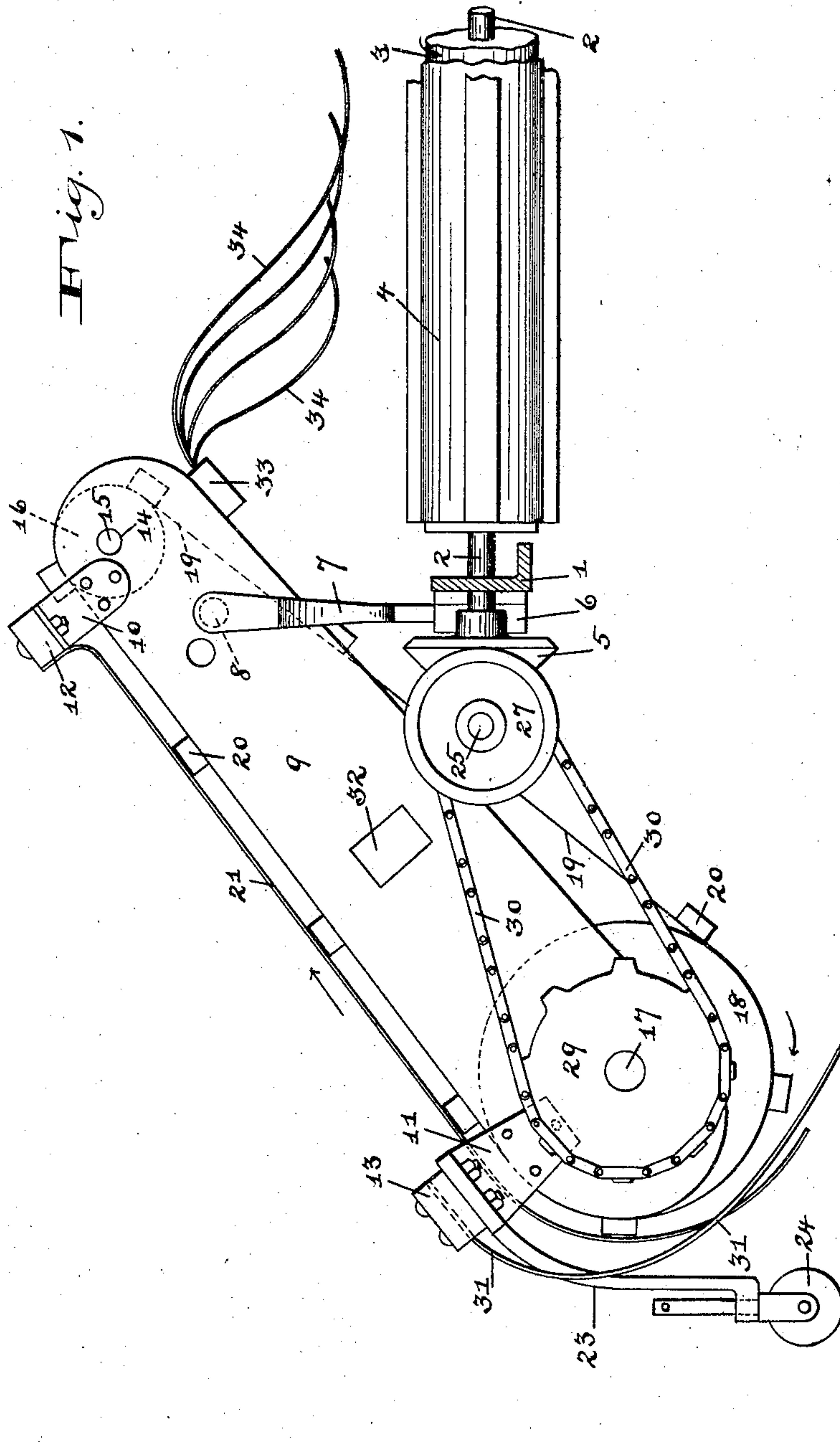


No. 785,431.

PATENTED MAR. 21, 1905.

E. M. NORRIS.
SWATH GATHERER ATTACHMENT FOR BINDERS.
APPLICATION FILED JAN. 16, 1905.

2 SHEETS—SHEET 1.



Witnesses.
H. A. Strick Jr.
S. Ferdinand Vogt.

Inventor.
Edward M. Norris
By Mann & Co.
Attorneys.

No. 785,431.

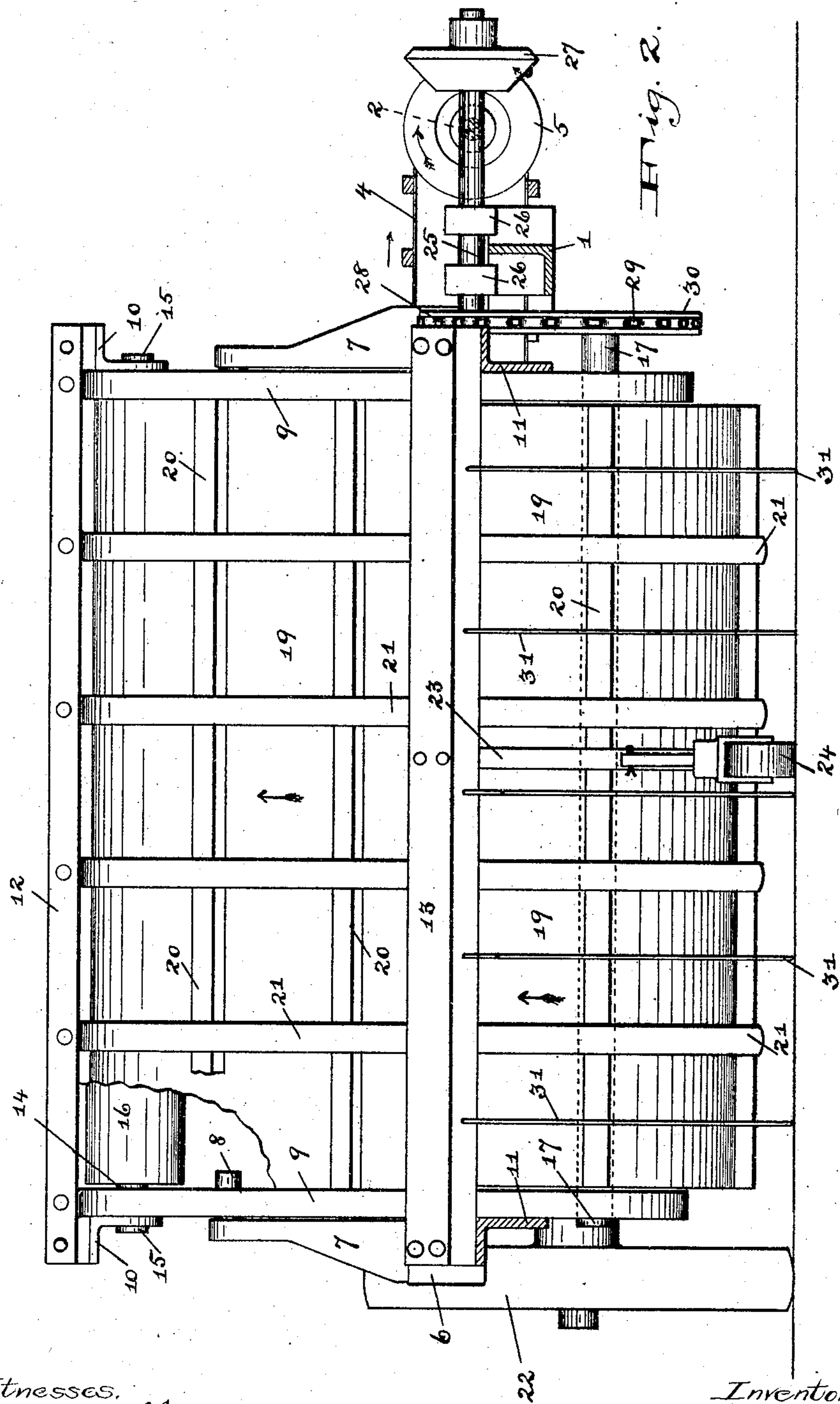
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SWATH GATHERER ATTACHMENT FOR BINDERS.

APPLICATION FILED JAN. 16, 1905.

2 SHEETS—SHEET 2.



Witnesses.
J. H. Sirich Jr.
J. Ferdinand Vogt.

Inventor.
Edward M. Norris
By Mann & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD M. NORRIS, OF BALTIMORE, MARYLAND.

SWATH-GATHERER ATTACHMENT FOR BINDERS.

SPECIFICATION forming part of Letters Patent No. 785,431, dated March 21, 1905.

Application filed January 16, 1905. Serial No. 241,180.

To all whom it may concern:

Be it known that I, EDWARD M. NORRIS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Swath-Gatherer Attachments for Binders, of which the following is a specification.

My invention relates to a swath-gatherer attachment for binders.

In harvesting the grain is mowed and spread in a swath to allow it to dry out and is then gathered and then fed to a binder and bound into sheaves.

The object of my invention is to provide an attachment for a binder that will gather the previously-mowed grain and deliver it onto the platform-belt of a binder, where it may then be put through any of the ordinary operations of binding.

The invention consists in the novel construction, combination, and arrangement of devices hereinafter described and claimed.

In illustrating the invention in the accompanying drawings a portion only of the binder is shown, it being deemed sufficient to merely illustrate the relative positions of the improvement with respect to the platform-belt of the binder.

In the drawings, Figure 1 illustrates a side elevation of the swath-gatherer attached to the frame of a binder, and Fig. 2 illustrates a rear elevation of the same.

Referring to the drawings by numerals, 1 designates the frame of an ordinary binder-platform; 2, one of the horizontal shafts, which carries a roller 3 and around which the ordinary platform endless belt 4 passes as it moves in a horizontal plane. The mechanism for driving this shaft, roller, and belt is not shown in the drawings, it being accomplished in any of the well-known ways in the binders now in use and being entirely immaterial in so far as the present invention is concerned. The shaft 2 carries a bevel-gear 5 on its outer rear end for a purpose to be presently described.

On the outer side the rear frame 1 is provided with vertically-extending brackets or sockets 6, in which the lower ends of side standards 7 of the swath-gatherer attachment are secured, while the upper ends of the stand-

ards are provided with laterally-projecting trunnions 8, which sustain the said attachment, as will presently be fully described.

The swath attachment comprises parallel end frames 9, each of which is provided with upper and lower angle-brackets 10 and 11, to which beams 12 and 13 are bolted to rigidly couple the end frames together.

A bearing 14 is provided in the upper ends of the frames 9, and a shaft 15, carrying a roller 16, has its ends supported in said bearings 14, so that the roller may revolve between said frames.

At the lower ends the frames support another horizontal shaft, 17, on which a roller 18 is mounted, which latter also revolves between said end frames. This lower roller is preferably larger in diameter than the upper roller 16 and has position adjacent the ground-line.

An endless belt 19 extends around the rollers 16 and 18, and said belt is provided with a plurality of horizontal cross-bars 20, such as are commonly employed in machines of this character.

A plurality of parallel guard-strips 21 extend from the upper beam 12 downwardly beneath the lower beam 13, and the lower ends of these strips curve circumferentially around the lower roller 18 and terminate in a horizontal plane between said roller and the ground, as clearly seen in Fig. 1.

A supporting-wheel 22 is mounted in any suitable manner at the end of the binder platform-frame and serves to sustain said platform-frame and the swath attachment secured to the rear of said frame. This wheel forms no part of the present invention and is employed on numerous binders at the present time.

An arm 23 is secured to the lower beam 13 and extends downwardly toward the ground and at its lower end carries a roller 24, which trails on the ground behind the swath attachment and sustains the lower end of the latter.

A horizontal shaft 25 extends in a direction at right angles to the shaft 2 of the platform, and said horizontal shaft has bearing in brackets 26, which project from the rear of the frame 1. This horizontal shaft at its outer end carries a gear 27, which meshes with and

is driven by the gear 5 on the platform-shaft 2, and also has a sprocket-wheel 28. A sprocket-wheel 29 is also mounted on the end of the lower shaft 17 at the side of the larger roller 18, and a sprocket-chain 30 passes around said wheels 28 and 29 and transmits rotary motion from the former to the latter, whereby to revolve the roller 18.

A plurality of teeth 31 are secured in the lower beam 13 and curve downwardly and partly around the roller 18 and trail along the ground and serve as a rake to raise the grain from the ground sufficiently to enable the cross-bars 20 on the belt to carry it up around the roller 18 and beneath the guard-strips 21.

A center brace-beam 32 extends horizontally between the two end frames 9 and between the endless belt 19 and serves as an additional securing device to hold the end frames rigidly in place.

At the upper end and above the platform-belt 4 the end frames are connected by a bottom beam 33, from which a plurality of curved wire arms 34 project out over the said platform-belt. By means of these arms 34 the grain discharged from the upper end of the swath-gatherer belt 19 will be turned out at right angles before it is deposited on the platform-belt 4 to be fed to the binder.

It will be understood that the swath attachment is secured to the rear side of the frame of the binder-platform and extends in a direction at right angles to the direction in which the platform-belt 4 moves. It will also be understood that in trailing behind the binder the rake-teeth 31 will raise the grain sufficiently to bring it in the path of the cross-bar 20 on the belt 19, which will then carry it around the lower roller 18 and beneath the guide-strips 21, which prevent it from falling off the belt as it is conveyed to the upper end, where it is discharged onto the wire arms 34 and turned at right angles as it drops onto the binder-belt 4. The binding operations then take place in the usual manner.

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

1. In a device of the class described the combination with the binder platform-belt, of a swath-gatherer trailing at the rear side of said belt, and having an endless belt traveling in an inclined plane and projecting in a plane above the platform-belt and also having a trailing rake device to lift the grain from the ground and into the path of the endless belt, and means for imparting motion to said inclined endless belt.

2. In a device of the class described the com-

bination with the binder platform-belt, of a swath-gatherer sustained at one side of said belt and having an inclined endless belt which projects over the platform-belt; means for turning the grain as it discharges from the inclined belt onto the platform-belt; a rake having a plurality of teeth which extend around and curve beneath the lower end of said inclined belt, and means for driving the inclined belt in a direction at right angles to said platform-belt.

3. In a device of the class described the combination with the binder platform-belt, of an inclined frame trailing at the rear side of said belt and having upper and lower rollers; an endless belt passing around said rollers and projecting over said platform-belt; rake-teeth carried by said frame and curving under the lower roller and the endless belt; means at the upper discharge end of said belt for turning the grain at right angles before it is deposited onto the platform-belt and means for driving said rollers and inclined belt.

4. In a device of the class described the combination with the binder-frame, of a belt at the front side of the binder-frame; an inclined frame sustained by the binder-frame and extending above and below the latter with its lower end trailing behind said frame; rollers mounted at the upper and lower ends of said frame; an endless belt passing around said rollers; a guard sustained by said frame above said endless belt and partly surrounding the lower roller and the belt thereon, a rake extending beneath the lower roller; means for revolving the rollers and inclined belt and means adjacent the upper roller for turning the grain after it discharges from the higher end of said belt.

5. In a device of the class described the combination with the binder platform-belt, of inclined parallel end frames sustained so as to project above and below the platform-belt and at the rear of the latter; rollers mounted on shafts at the upper and lower ends of said end frames; an endless belt passing around said rollers; a sprocket-wheel on the shaft of the lower roller; a horizontal shaft at the rear side of the platform-belt; a sprocket on said shaft; a chain passing around said sprockets; a gear also on said horizontal shaft; means for driving said gear and a rake sustained at the lower end of said end frames and projecting beneath said lower roller to lift the grain from the ground and into the path of the endless belt.

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

EDWARD M. NORRIS.

Witnesses:

G. FERDINAND VOGT,
CHARLES B. MANN, Jr.