No. 627,872. Patented June 27, 1899.

T. J. McBRIDE.

HEADING ATTACHMENT FOR HARVESTERS AND BINDERS.

(Application filed May 11, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

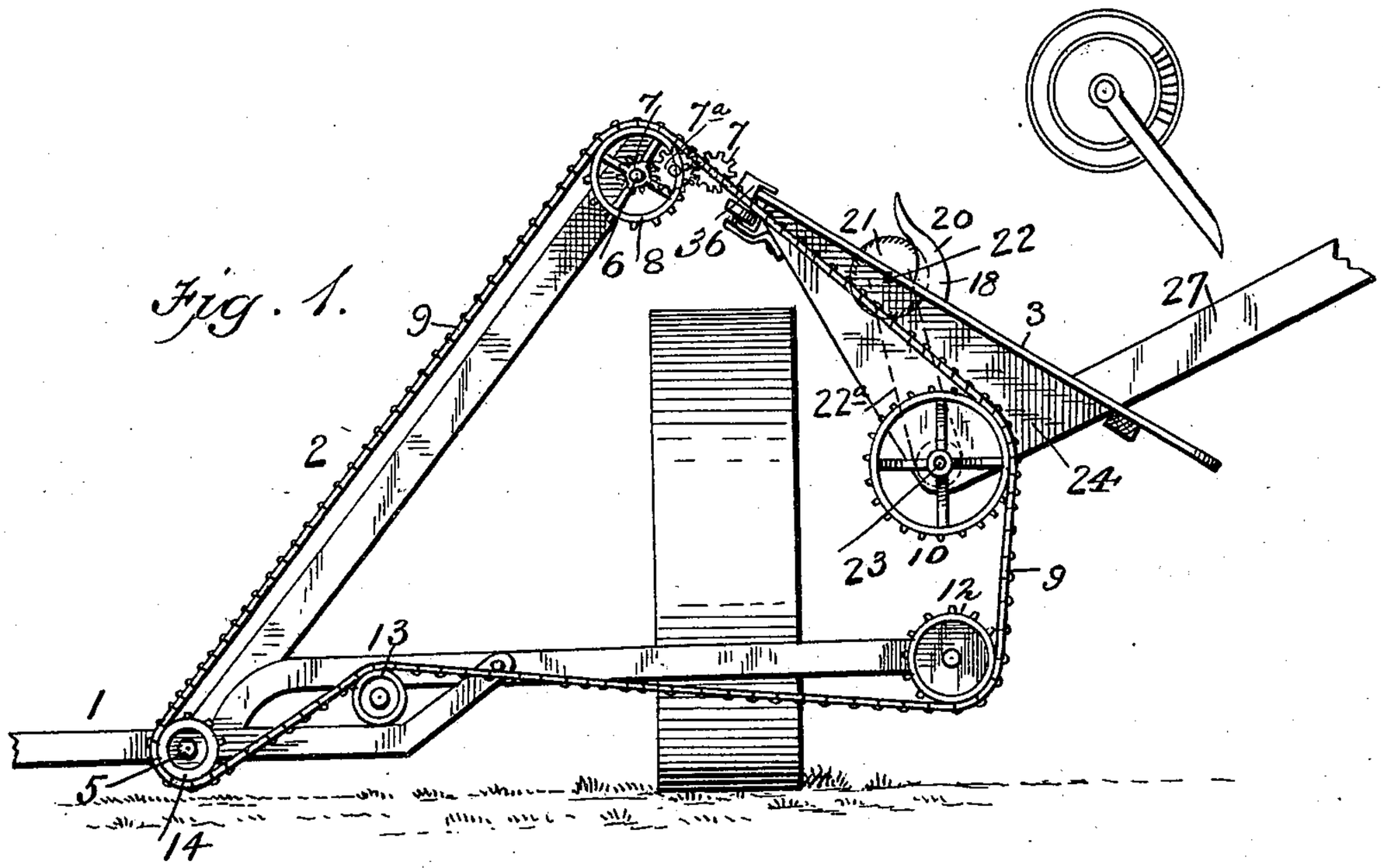

Fig. 2.

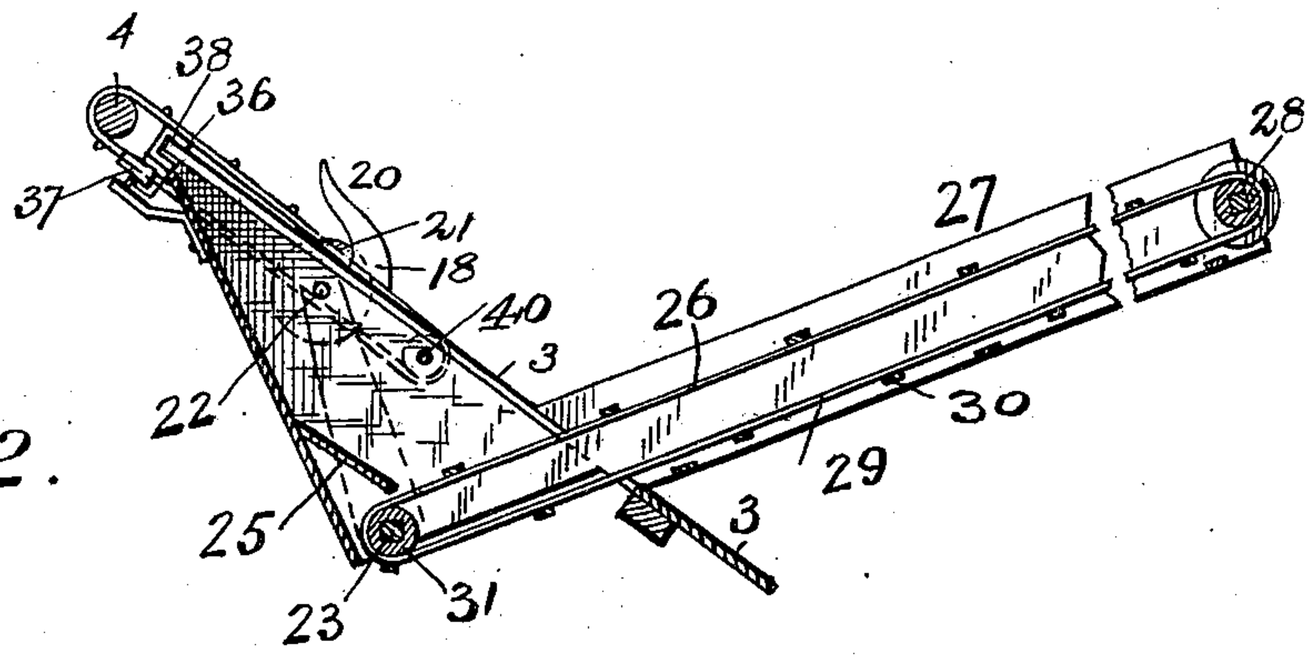

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Fig. 3.

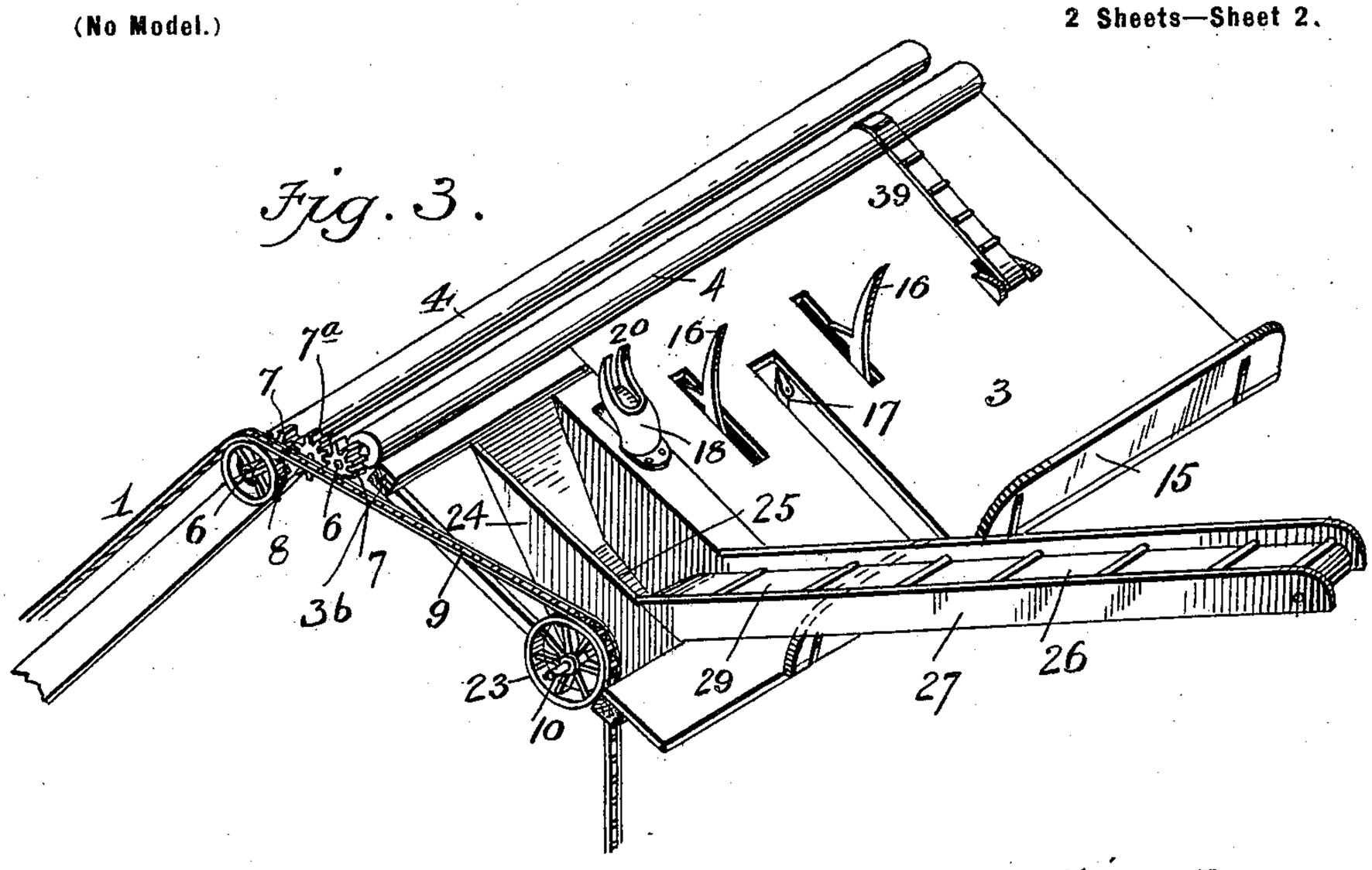


Fig. 4.

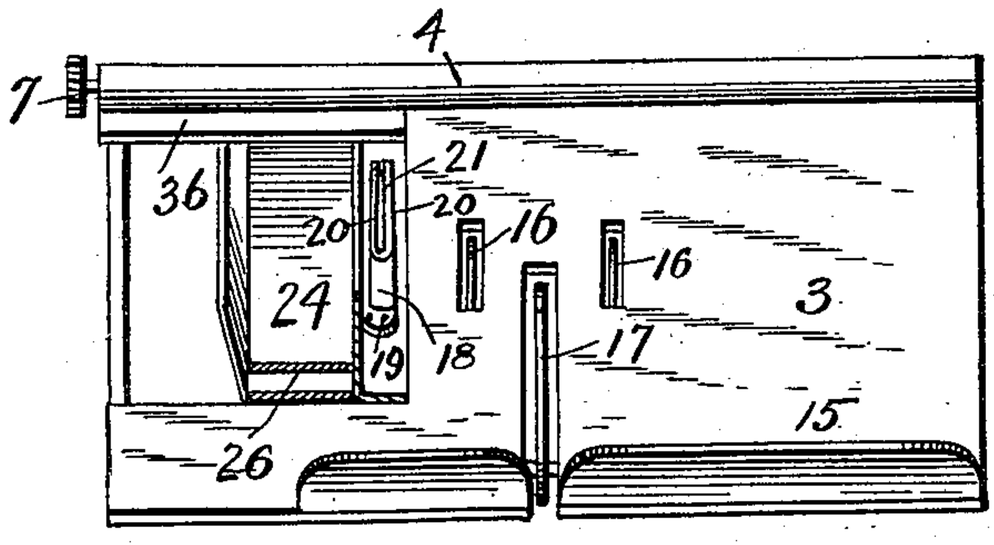


Fig. 5.

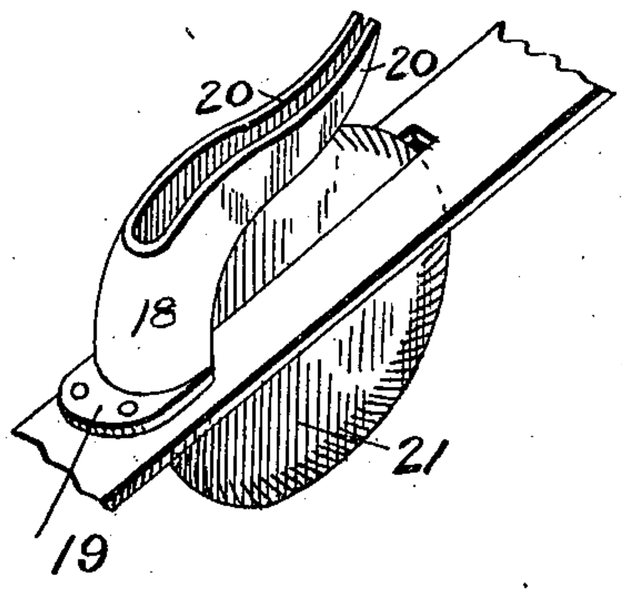


Fig. 6.

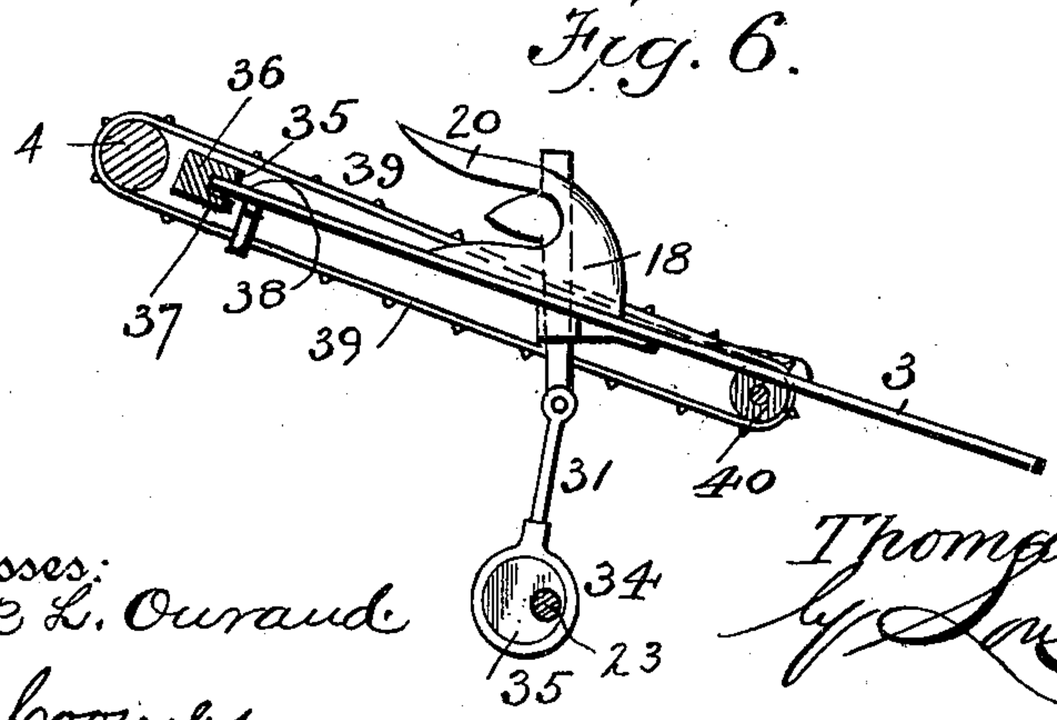
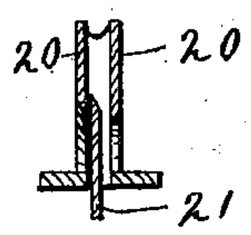


Fig. 7



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UNITED STATES PATENT OFFICE.

THOMAS J. McBRIDE, OF TORONTO, CANADA, ASSIGNOR TO THE MASSEY-HARRIS COMPANY, LIMITED.

HEADING ATTACHMENT FOR HARVESTERS AND BINDERS.

SPECIFICATION forming part of Letters Patent No. 627,872, dated June 27, 1899.

Application filed May 11, 1898. Serial No. 680,347. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. McBRIDE, a subject of the Queen of Great Britain, residing at Toronto, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Heading Attachments for Harvesters and Binders, of which the following is a specification.

My invention relates to heading attachments for harvesting and binding machines for severing or cutting the heads from the cut straw, which heads are conveyed away to any convenient receptacle and the straw packed so as to form a bundle or gavel and then tied.

The object of the invention is to provide an improved construction of header and connections, whereby I secure important advantages with respect to efficiency in operation.

In the accompanying drawings, Figure 1 is a side elevation showing an ordinary harvesting and binding machine with my improvements applied thereto. Fig. 2 is a longitudinal section of the same. Fig. 3 is a perspective view looking from the rear. Fig. 4 is a rear view, partly in section. Fig. 5 is a detail perspective view of the grain stop and knife. Fig. 6 is an elevation of a modified construction of knife and means for operating the same. Fig. 7 is a cross-section through the upwardly-extending curved arms and the circular knife.

In the said drawings the numeral 1 designates the grain-platform, which receives the grain cut by the knife or sickle. At the stubbleward end of this platform is an inclined elevator (not shown) for elevating the cut grain from said platform to the binder platform or table 3. This elevator may consist of an endless belt or apron running over rollers 4 and 5 at the top and bottom of the machine provided with shafts or journals 6 and may be of any of the ordinary constructions now in common use. The upper rollers at one end are provided with pinions 7, which intermesh with an intermediate pinion 7^a, and one of said rollers is provided with a sprocket-wheel 8, over which passes a sprocket-chain 9, which chain also passes around sprockets 10, 12, 13, and 14.

The numeral 15 designates the tail-board at the lower end of the inclined binder table or platform, 16 the packers, and 17 the needle.

The parts so far described may be of any ordinary or suitable construction and form no part of the present invention except in combination with my improvements.

Located in rear of the upper rollers 4 and secured to the binder table or platform is a grain-stop 18, consisting of a base 19, provided with holes for the passage of bolts or other fastening means, and two upwardly-extending curved arms 20, pointing in the direction from which the grain comes from the harvester, with a space between the ends and the platform or table 3. These arms are contracted at the ends, so that the space between the ends is narrower than the space between the arms at their junction with the base 19. (See Fig. 5.) One of these arms is formed with a cutting edge. Located between said arms is a circular knife 21, which is mounted upon a shaft 22 and driven by a belt 22^a from the shaft 23 of the sprocket-wheel 10, so that as said wheel is rotated the shaft and knife will be correspondingly rotated. At one side of said grain-stop is a downwardly-extending trough or receptacle 24, which receives the heads of the grain, as hereinafter described, and is provided with an inclined bottom 25 for carrying the heads over the shaft 23 onto a conveyer 26, comprising the horizontal side rails 27, connected together at the ends and provided with a roller 28 at the outer end, over which passes an endless belt or apron 29, provided with transverse cleats 30. This belt or apron also passes over a roller 31 on the shaft 23, the latter passing through the inner ends of said side rails.

Stubbleward of the shaft 6, at one side of the binder-table, is a slide 36, having a groove 37, with which engages a rib 38. By moving this slide in and out the distance which the heads of the grain project from the binder-table over the trough can be regulated—that is to say, said slide acts as a guide for the cut grain as it is delivered to the binder-table.

The numeral 39 designates an endless belt passing over the roller 5 and over a roller 40,

located underneath the binder-table, and its object is to carry the grain to the lower end of the binder-table.

The operation is as follows: The machine is drawn across the field, as usual, the knife or sickle cutting the grain, which is conveyed by the inclined elevator to the upper end of the machine, from whence it falls to the binder platform or table. The grain will now be caught by the grain-stop a short distance at one side of the heads, and the heads will be cut off or severed by the knife and the cutting edge of the grain-stop and will fall into the trough, striking the inclined bottom and falling onto the conveyer, which will carry them to a wagon or other receptacle. The stalks or straw will be formed into gavels or bundles by the packers and will be tied by the needle in the ordinary manner.

In the modification shown in Fig. 6 I employ a straight reciprocating knife instead of a circular one, which is connected by an arm 31 and eccentric-strap 34 with an eccentric 35, secured to the shaft 23.

By my improvements the heads are rapidly severed or cut from the stalks and can be subsequently threshed by any suitable machine, and there will be no loss of straw, as is the case where the heads are cut off from the standing grain and the straw left on the ground.

It is obvious that my improvements can be used in connection with a low-down harvester with or without a binding attachment, as well as with an elevated one, as shown, without departing from the principle of the invention.

Having thus fully described my invention, what I claim is—

1. In a harvesting-machine, the combination with the inclined table or platform, of the grain-stop comprising the base secured to said table and two curved arms inclining upwardly and pointing in the direction from which the cut grain comes, and one of said arms formed with a sharpened edge, and the knife located between said arms, substantially as described.

2. In a harvesting-machine, the combination with the inclined table or platform, of the grain-stop comprising the base secured thereto and the two curved arms inclining upwardly and pointing in the direction from which the grain comes and contracted from the base to the ends, and one of said arms formed with a cutting edge, and the heading-knife located between said arms, substantially as described.

3. In a harvesting-machine, the combination with the inclined table or platform, of the grain-stop secured thereto comprising the base and the curved contracted arms, the knife located between said arms, the trough at one side of said grain-stop, and the conveyer, substantially as described.

4. In a harvesting-machine, the combination with the binder table or platform, the packers, the needle and means for operating the same, of the grain-stop, the knife, the trough or hopper, the conveyer, and means for operating the knife and conveyer, substantially as described.

5. In a harvesting-machine, the combination with the binder table or platform, the needle and means for operating the same, of the trough or hopper, the conveyer and the grain-stop comprising the two curved arms inclining upwardly and pointing in the direction from which the grain comes and contracted from the base to the ends and one of the said arms formed with a cutting edge and the heading-knife located between said arms, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS J. McBRIDE.

Witnesses:
BENNETT S. JONES,
EMMA M. GILLETT.