

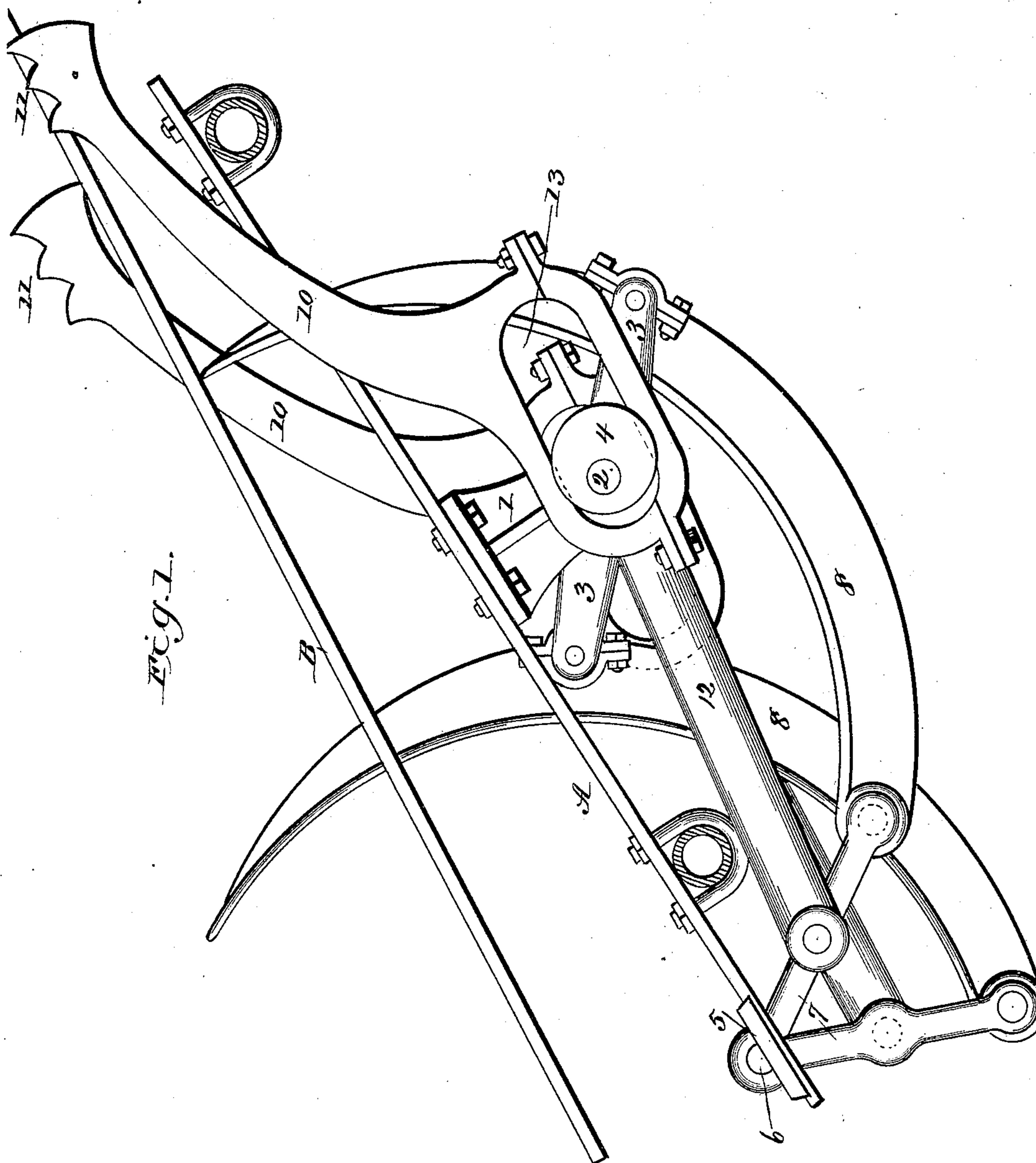
(No Model.)

2 Sheets—Sheet 1.

P. H. SAXMAN.  
GRAIN BINDER.

No. 390,709.

Patented Oct. 9, 1888.



Witnesses,

*J. A. Ryan.*  
*J. W. Turner.*

Inventor,

*Peter H. Saxman.*

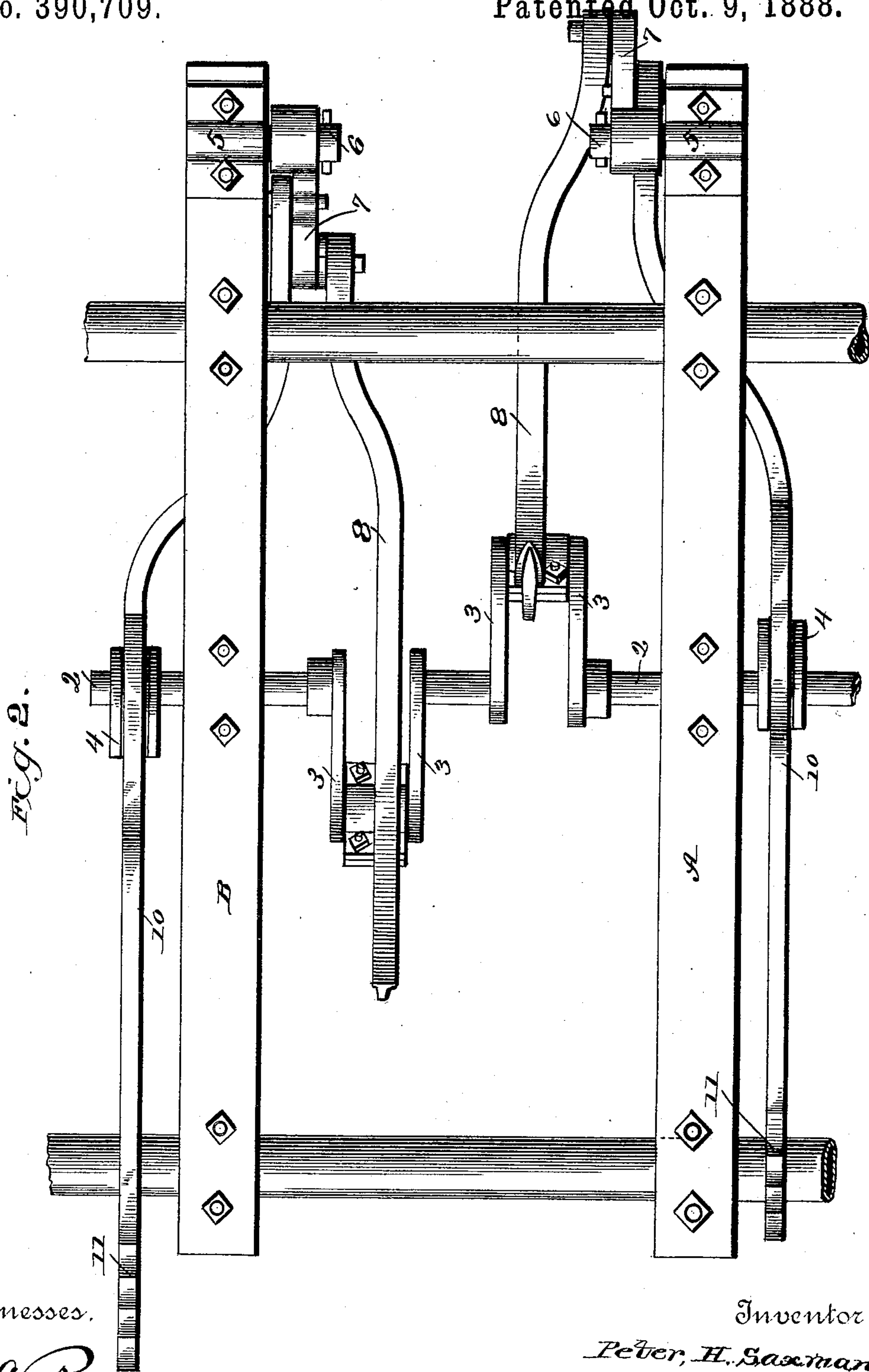
By his Attorneys

*C. H. Snow & Co.*

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Inventor.

*Peter, H. Saxman.*

By his Attorneys

J. A. Ryan.  
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C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

PETER H. SAXMAN, OF LATROBE, PENNSYLVANIA.

## GRAIN-BINDER.

SPECIFICATION forming part of Letters Patent No. 390,709, dated October 9, 1888.

Application filed April 20, 1888. Serial No. 271,284. (No model.)

*To all whom it may concern:*

Be it known that I, PETER H. SAXMAN, a citizen of the United States, residing at Latrobe, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Improvement in Grain-Binders, of which the following is a specification.

My invention relates to an improvement in grain-binders; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide an attachment for grain-binders to prevent the grain from choking or clogging and becoming wasted in the space between the carriers of the harvester mechanism and the packing-arms of the binder mechanism; and this object I attain by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a grain-binder provided with my improved devices. Fig. 2 is a top plan view of the same, the binding table or platform being removed.

A represents a portion of the frame of a grain-binder of the usual construction, which is inclined in the usual manner; and B represents the inclined binding-table, which is arranged above the frame A, as shown, and onto which the grain is delivered by the usual elevator and carrier (not shown) of the harvesting-machine.

On the under side of the frame A is bolted a pair of brackets, 1, in which is journaled a transverse shaft, 2, which is provided with cranks 3, which extend in diametrically-opposite directions.

4 represents a pair of eccentrics, which are keyed to the said shaft on the outer sides of the frame, and are also extended in diametrically-opposite directions from the shaft, the said eccentrics corresponding with the arrangement of the proximate cranks, as shown in Fig. 2. Each of the said eccentrics is provided with an annular peripheral groove.

5 represents a pair of brackets, which are bolted to the frame A at a suitable elevation, and are provided with inwardly-extending spindles 6. 7 represents a pair of links, which have their upper ends pivoted on the said spindles.

8 represents a pair of curved packing arms

of the usual construction, which are connected at a suitable distance from their upper ends, on their rear sides, to the wrists of the cranks 3, by means of bearing-blocks, and the lower ends of the said packing arms are pivotally connected to the lower ends of the links 7.

It will be understood from the foregoing description that when the shaft 2 is rotated the wrists of the cranks 3 will cause the upper ends of the packing-arms 8 to describe elliptical paths which are intersected by the binding-table B, and that the links 7 oscillate back and forth with the motion of the packing-arms.

An objection hitherto existing to binders of this class is that the packing-arms sometimes fail to grasp the grain that is fed onto the binding table, and hence the grain becomes clogged and accumulates on that portion of the binding-table which is between the delivery end of the elevator and the packing-arms and is wasted. In order to overcome this defect, I provide a pair of upwardly-inclined feed-arms, 10, which have spurs 11 at their upper ends, and are provided at their lower ends with projecting arms 12, which are pivotally connected to the central portions of the links 7. At the lower ends of the inclined portions of the feed-arms 10 are longitudinal openings 13, the sides of which are engaged by the peripheral grooves of the eccentrics 4. The feed arms are thus raised and lowered by the eccentrics at the same time that they are reciprocated back and forth by the links 7.

When the machine is in operation, the rotation of the shaft 2 and the eccentrics 4 and the oscillating motion of the links 7 will cause the upper ends of the feed-arms to move alternately upward, forward, downward, and back and describe elliptical paths, the forward motion of each feed-arm being accomplished while the toothed end thereof is above the plane of the binding-table, and the retrograde motion of each feed-arm being accomplished while its upper end is below the plane of the binding-table, and thereby the said feed-arms will be caused to engage the grain on the feed-table and move the same downward thereon into the paths of the alternately-operating packing-arms 8, and hence it will be impossible for the grain to clog and accumulate on the binding-table.

An important advantage possessed by my

improved feeding apparatus is that the same is adapted to be attached to existing grain-binders without altering the grain-binders and at very slight expense.

5 Having thus described my invention, I claim—

1. The combination, in the binding mechanism of a harvester, of the shaft 2, having the eccentrics 4, the oscillating links 7, the pack-  
10 ing-arms driven by the said shaft and connected to said links, and the feed arms 10, connected to the said links and having the openings 13, engaging the eccentrics, substantially as described.

15 2. In the binding mechanism of a harvester, the combination of the crank-shaft 2, the os-

illating links 7, and the packing-arms 8, connected to the wrists of the cranks and to the links 7, with the feed-arms 10, having the spurs 11 at their upper ends, and the eccentrics 20 4, secured to shaft 2 and engaging openings 13 in the feed-arms, the lower ends of said feed-arms being pivotally connected to the links 7, substantially as described.

In testimony that I claim the foregoing as my  
own I have hereto affixed my signature in pres- 25  
ence of two witnesses.

PETER H. SAXMAN.

Witnesses:

JOHN OVERLY,

WILLIAM C. MACMILLAN.