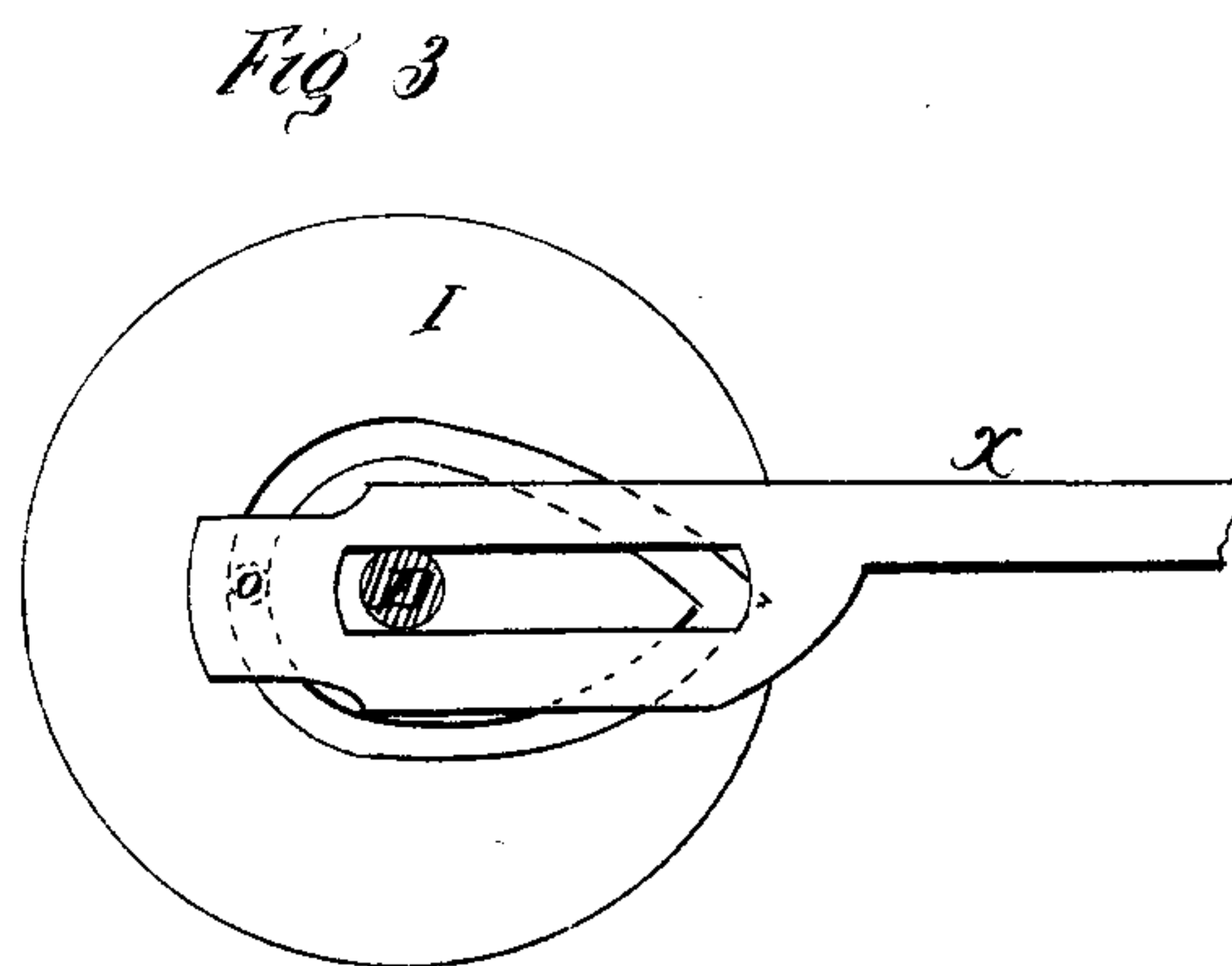
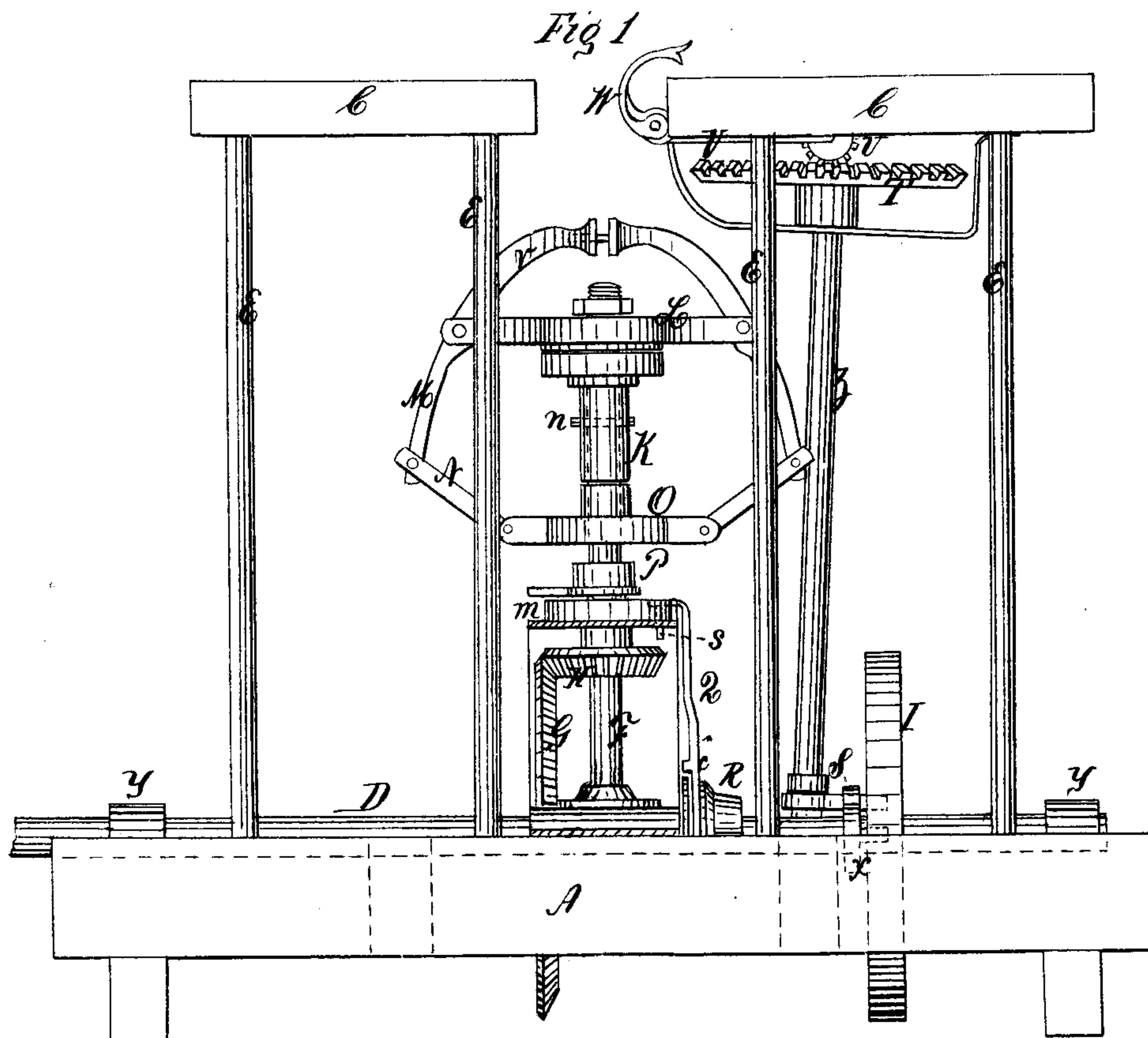


J. PEARSON.

Improvement in Grain Binders.

No. 125,481.

Patented April 9, 1872.



Witnesses:

W H Clark
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Inventor:

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UNITED STATES PATENT OFFICE.

JOSHUA PEARSON, OF WEST MILTON, OHIO.

IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. 125,481, dated April 9, 1872.

Specification describing a certain Improved Machine for Binding Grain, invented by JOSHUA PEARSON, of West Milton, in the county of Miami and State of Ohio.

My invention relates to a combination and arrangement of mechanism, which is attached to a Marsh-harvester or other reaper having an endless apron carrying the grain to the side, and by which means, when the attendant places the sheaf in position and supplies a band of straw, the machine twists and tucks the band.

Figure 1 is a side elevation of the binding-machine. Fig. 2 is a side view of the detach-ing-cam and arm used in connection therewith. Fig. 3 is a side view of the tucking-cam and arm used in connection therewith.

A represents a quadrangular frame, having two cross-ties, as indicated. This frame gives support to eight columns, four on each side, on the top of which are secured two platforms, C C. The shaft D is supported in bearings y y, at either end of the frame. To this shaft are secured the cams R and I and the wheel G, which gears into the pinion H, which is secured to the vertical shaft F. Two substantial metallic bars, cut away in the drawing, cross from one side of the frame to the other. The upper supports the ring m and the lower the step which supports the shaft. The vertical shaft has only the pinion and horizontal arm permanently attached to it. The sleeve K, the arm O, and drop-catch P, move freely about it. The ring m has a slot cut through it on the side next to the arm Q, into which slot the projecting part of this arm plays, and into which drops the projection of the catch P. At Fig. 2 is shown the relation of the arm Q to the cam. The arm is forked and plays within a groove of the cam. The irregular part, operating against the projection c, causes the arm to reciprocate vertically. To the projecting part is secured a pin, s, which moves within an orifice of the bar. The pin n plays within slots of the sleeve K, by which means the sleeve is caused to rotate with the shaft, but having a free vertical movement. The upper disk of the sleeve is perforated with holes, into which a pin of the arm L enters. The upper arm L is secured to the shaft by a nut. This arm has pivoted to it two levers, M, the upper ends of which terminate in clamps of

considerable length. The bars N are pivoted to the arm O and levers M. Two pins, one on either side of the center, are securely attached to one jaw and enter orifices of the other. It is my purpose to line the jaws with India rubber or other suitable flexible material. The shaft F occupies nearly a central position to the frame; and the shaft Z is supported in bearings on the opposite side of the frame from view. To the lower end is secured the arm S, which is pivoted to the bar X. This bar, at its opposite end, is slotted for the shaft, (see Fig. 3,) and has a pin, o, which moves within the heart-shaped groove of the cam I. To the top of the shaft is a miter-wheel, T, which should be but a segment, and which gears into the pinion U, which is secured to the shaft V. To the opposite end of this shaft is secured the tucker W. The shaft is supported in bearings secured to the platform. The power for driving this machine is derived from the harvester with which it is connected. An intervening clutch is used and so constructed that it may be operated by the foot of the attendant.

The operation may be described thus: The grain is received onto the platform from the endless apron of the harvester. The attendant grasps a band from the straw, and, placing it over the bundle of grain, brings the ends of band beneath the two parts of the platform into the jaws. Motion being communicated by means of the clutch the arm I is carried up. This raises the catch P, arm O, and sleeve K, and this engages with the arm L, and thereby closing and causing two revolutions of the jaws, and therefore two twists of the band. Just as the band is disengaged by the jaws, the tucking-arm, being concave in its front, carries the twisted end beneath the band, and thus completes the operation. The disengaging of the band is effected by the cam letting the arm drop, and this lets the catch fall into its slot; and the other parts descend, opening the jaws and stopping its motion at the same instant in a proper position to again receive the ends of the band. The tucker thrusts the ends of the band beneath and is immediately withdrawn. This motion is produced by the cam I and the connecting parts before described. The sheaf is thrown from the plat-

form by the attendant, or it may otherwise be thrown by a lever arranged for the purpose.

I claim as my invention—

1. The combination of the shafts D and F, miter-wheels G and H, ring *m*, catch P, arms O and L, sleeve K, pin *n*, bars N, levers M, arm Q, and cam R, for the purpose specified.

2. The combination of the shaft D, cam I, bar X, arm S, shaft Z, miter-wheels T and U, shaft V, and tucker W, constructed and operating substantially as and for the purpose specified.

3. The combination of shafts D and F, miter-wheels G and H, ring *m*, catch P, arms O and L, sleeve K, pin *n*, bars N, levers M, arm Q, and cams R and I, bar X, arm S, shaft Z, miter-wheels T and U, shaft V, and tucker W, the several parts being driven by a common shaft, thus forming an automatic grain-binder, substantially as described.

JOSHUA PEARSON.

Witnesses:

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