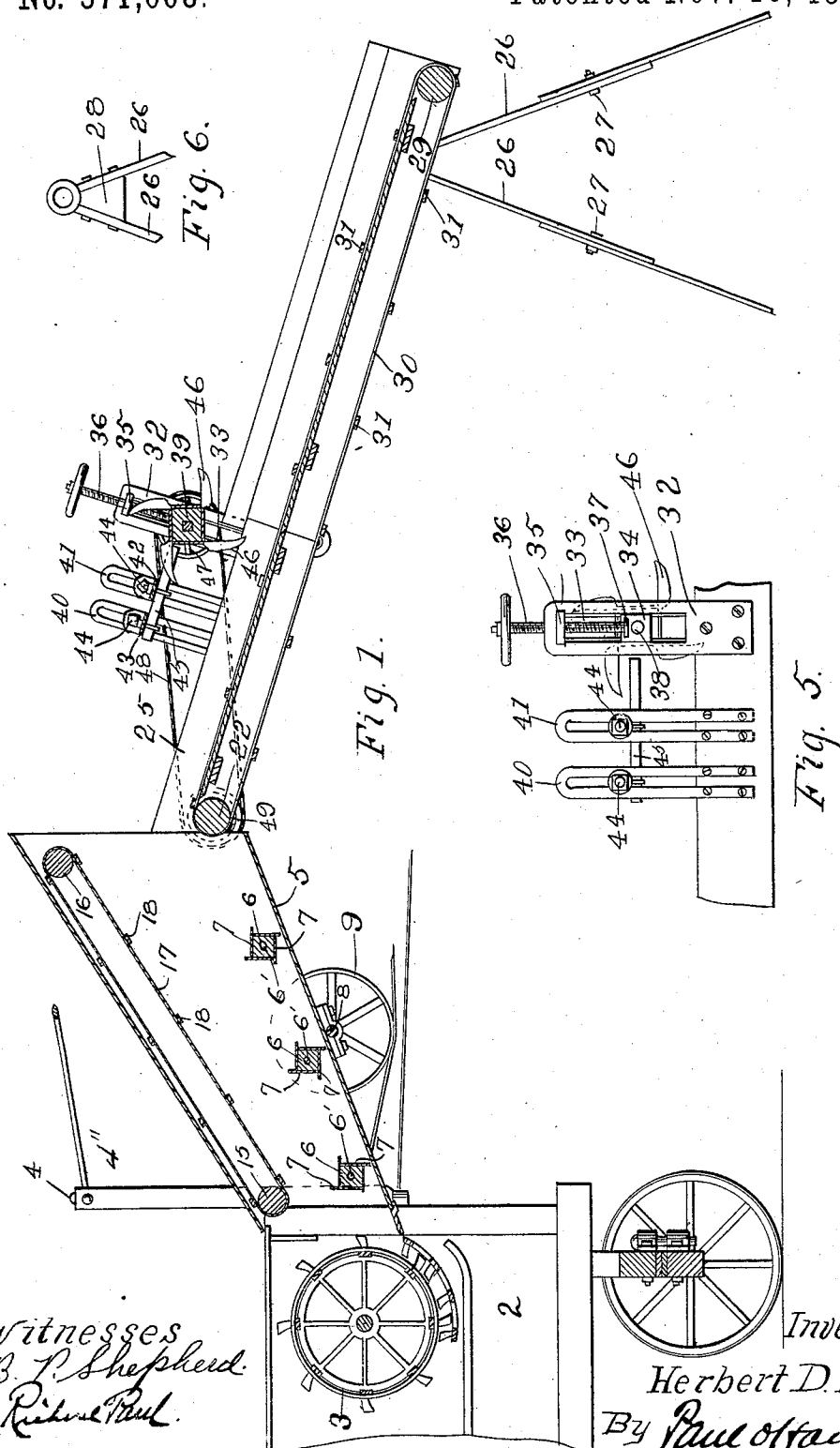


H. D. MYERS.
BAND CUTTER AND FEEDER.

No. 571,008.

Patented Nov. 10, 1896.



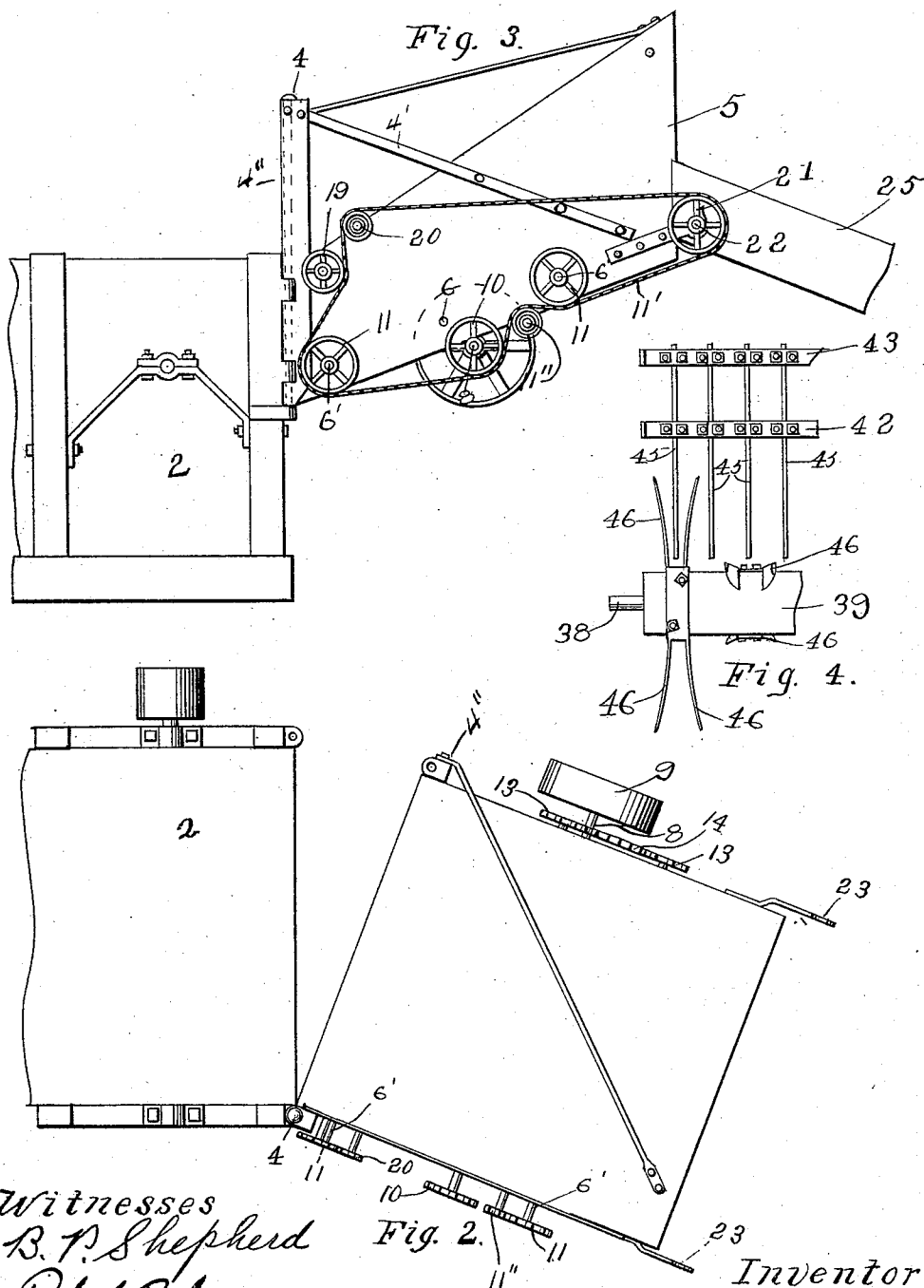
(No Model.)

2 Sheets—Sheet 2.

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Witnesses
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UNITED STATES PATENT OFFICE.

HERBERT D. MYERS, OF BOWDLE, SOUTH DAKOTA.

BAND-CUTTER AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 571,008, dated November 10, 1896.

Application filed January 27, 1896. Serial No. 576,928. (No model.)

To all whom it may concern:

Be it known that I, HERBERT D. MYERS, of Bowdle, Edmunds county, South Dakota, have invented certain new and useful Improvements in Band-Cutters and Feeders, of which the following is a specification.

My invention relates to self-feeding devices for threshing-machines; and the object I have in view is to provide a mechanism for automatically advancing the bundles of grain toward the rapidly-revolving cylinder.

Further, my invention consists in mechanism for cutting the bands while the bundles are in motion, and in particular means for breaking and separating the stalks of grain after the bands are cut; and my invention consists generally in certain particular constructions and combinations, all as hereinafter described, and particularly pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal section of a machine embodying my invention. Fig. 2 is a plan view showing the casing or frame containing the self-feeding mechanism swung around to permit access to the cylinder. Fig. 3 is a side elevation of the same. Fig. 4 is a detail of the band-cutting mechanism. Fig. 5 is a detail of the means for raising and lowering the band-cutting mechanism. Fig. 6 is a detail of the adjustable means for raising and lowering the conveyer mechanism.

In the drawings, 2 represents the forward end of a threshing-machine of the ordinary construction, provided with the usual rapidly-revolving cylinder 3, operated by a belt from an engine arranged at a suitable distance from the machine.

To the end of the machine adjacent to the cylinder I removably secure the casing 5 for the feed mechanism by means of bolts 4, passing down through openings provided in the vertical standards 4' on the casing, and the lugs 4'', provided on the end rail of the machine. Braces 5' and 5'' connect the standards 4' with the top and side of the casing 5 and serve to support and steady the same.

In the lower part of the casing or frame 5 of the feed mechanism I arrange the blocks 6, preferably of wood, having square faces and provided with a central opening through

which shafts 6' extend, having their ends journaled in the sides of the casing at intervals of a few feet, as may be desired. I may provide a number of these blocks, but prefer to use three, as shown in the drawings. Each block 6 is provided on each of its square faces with a plate 7, extending longitudinally along the face of the block and having one edge projecting beyond the corner of the block, thereby forming a sharp edge to separate and break the bundles of grain as they are delivered from the conveyer.

Upon the under side of the casing 5 I arrange the shaft 8, provided at one end with a large fly-wheel 9, having the main driving-belt in engagement with its under surface, and the opposite end of the shaft 8 is provided with a sprocket-wheel 10, and similar sprockets 11 are provided on the adjacent ends of the two end shafts 6'. A sprocket-chain 11' is provided to pass over the sprockets 10 and 11, and an idler 11'' is arranged near the outer sprocket 11 to hold the chain in engagement therewith. The middle and outer shafts 6' are provided with sprockets 13 on the end of the shafts adjacent to the fly-wheel 9, and a chain 14 is passed over the same, whereby power is taken from the outer shaft 6 to drive the middle shaft.

In the upper part of the casing 5, and at each end thereof, I arrange the shafts 15 and 16, over which a canvas belt 17 is passed, provided with a series of slats 18, arranged transversely thereon, and which aid in advancing the grain to the cylinder.

The shaft 15 is provided with a sprocket-wheel 19 and engages the chain 11', which is held in engagement therewith by an idler 20. After passing over the idler 20 the chain 11' is carried to the outer end of the casing and passes around a sprocket 21, provided on a shaft 22, arranged in the end of the frame of the conveyer.

The casing 5 is inclined downward toward the cylinder and is provided at its outer end with extensions or lugs 23, having grooved outer ends to receive and support the shaft 22, provided in the end of the conveyer frame or casing 25. This frame is inclined downward from the casing 5, and its outer end is supported upon the adjustable legs 26, as shown in Fig. 1. Each leg is made in two

parts, and the overlapping ends are slotted to receive a bolt 27, by means of which the inclination of the conveyer-frame may be regulated at will and the legs adjusted to suit the inequalities of the ground where the machine may be set up. I provide a casting 28, pivoted to the under side of the conveyer-frame, and to this casting I secure the upper end of the legs 26. The lower end of the conveyer-frame is provided with a shaft 29, and a belt or apron 30 passes over this shaft and the shaft 22, arranged in the opposite end of the conveyer-frame. This belt or apron is provided with a series of transversely-arranged slats 31, which aid in advancing the bundles of grain up toward the casing or frame 5.

To the frame of the conveyer I secure the band-cutting mechanism, which may be arranged at any convenient point, preferably near the middle portion thereof, and comprising the vertical parts 32, secured to the opposite sides of the frame, and provided with a vertical slot 33, in which the block 34 is slidable. At the upper end of the slot 33 I arrange the part 35, having a threaded central opening to receive the threaded rod 36, having its lower end provided with a cap 37, which is inserted into a slot in the upper side of the block 34. The block 34 is provided with an opening to receive the end of the shaft 38, which passes through a central opening in the square block 39, upon which the band-cutting knives are secured. Between the band-cutting shaft and the inner end of the conveyer-frame I arrange upon both sides of the frame the U-shaped parts 40 and 41, to which the slats 42 and 43 are adjustably secured by means of bolts 44, passing through openings provided in the turned-up ends of the slats. The slats or cross-bars extend out across the conveyer-frame, and a series of fingers 45 are arranged on the slats and extend parallel with the direction of the moving belt or apron.

Upon the square faces of the block 39 I arrange the band-cutting knives 46, which consist of a plate adapted to be secured to the face of the block 39, and provided at one end with blades or projections having a sharp edge and a space between them to receive one of the fingers 45. I prefer to provide these knives upon each face of the square block 39, and there may be as many of them as desired, but I prefer to arrange them at intervals on the block, as shown in the drawing.

The fingers and the cross-bars or slats may be adjusted at any desired distance from the conveyer by means of the U-shaped parts 40 and 41, and prevent the bundles of grain from being lifted off the conveyer and carried around by the revolving band-cutter.

A sprocket 47 is provided on the end of the shaft 38, and a chain 48 passes over the same and over a similar sprocket 49 on the opposite end of the shaft 22 from the sprocket 21.

The sprockets 47 and 49 may be of the same size or the sprocket 47 be made larger, so that the band-cutting shaft will not have the same speed as the conveyer.

The operation of the device is as follows: The bundle of grain is laid upon the conveyer and carried by the same up under the revolving band-cutter, and after the band is cut the bundle is carried forward by the conveyer into the casing or frame 5, where it is taken up by the revolving plates 7 and thoroughly beaten and separated, and finally delivered to the cylinder. The belt in the upper part of the casing 5 operates upon the tops of the bundles, particularly when the grain is fed rapidly, and aids very materially in advancing the bundles toward the cylinder.

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

In a device of the class described, the combination, with the conveyer-frame and the conveyer belt or apron arranged thereon, means for operating the same, of the upright parts 32 secured to the opposite sides of said frame, and provided with the slots 33, the block 34 slidable within said slots, the screw mechanism for raising and lowering said block, the knives arranged at intervals upon the faces thereof, said knives consisting of plates having projecting tines or blades, the U-shaped parts 40 and 41, the slats 42 and 43 adjustably secured thereto, and the fingers carried by said slats and extending laterally therefrom into the space provided between the tines or blades of said knives, for the purpose set forth.

In testimony whereof I have hereunto set my hand this 23d day of November, A. D. 1895.

HERBERT D. MYERS.

In presence of—

C. G. HAWLEY,
RICHARD PAUL.