(No Model.) 4 Sheets—Sheet 1.

C. PARIDY & L. A. BROWN.

BAND CUTTER AND FEEDER FOR THRASHING MACHINES.

No. 422,353. Patented Feb. 25, 1890.

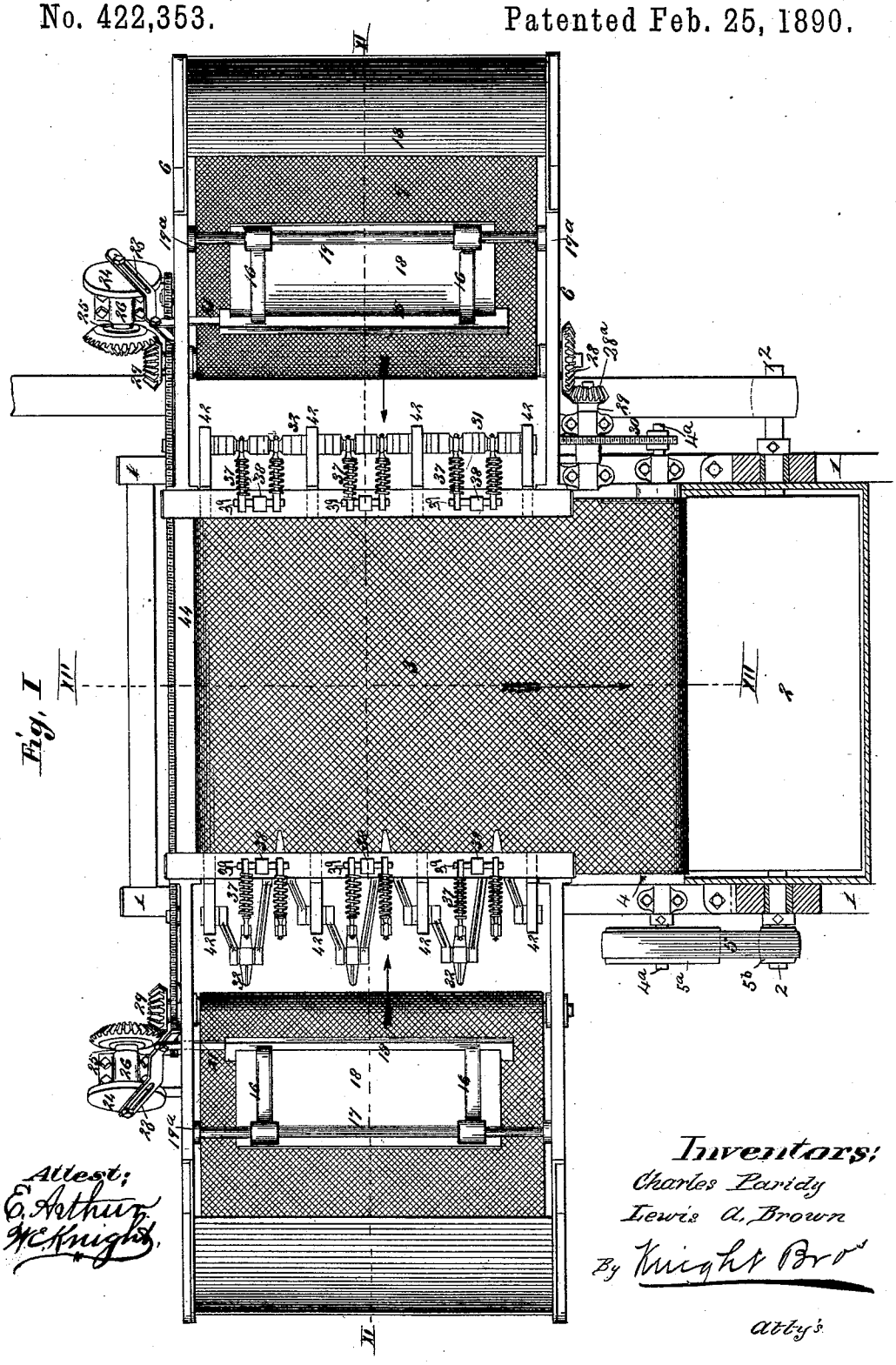

Fig. I

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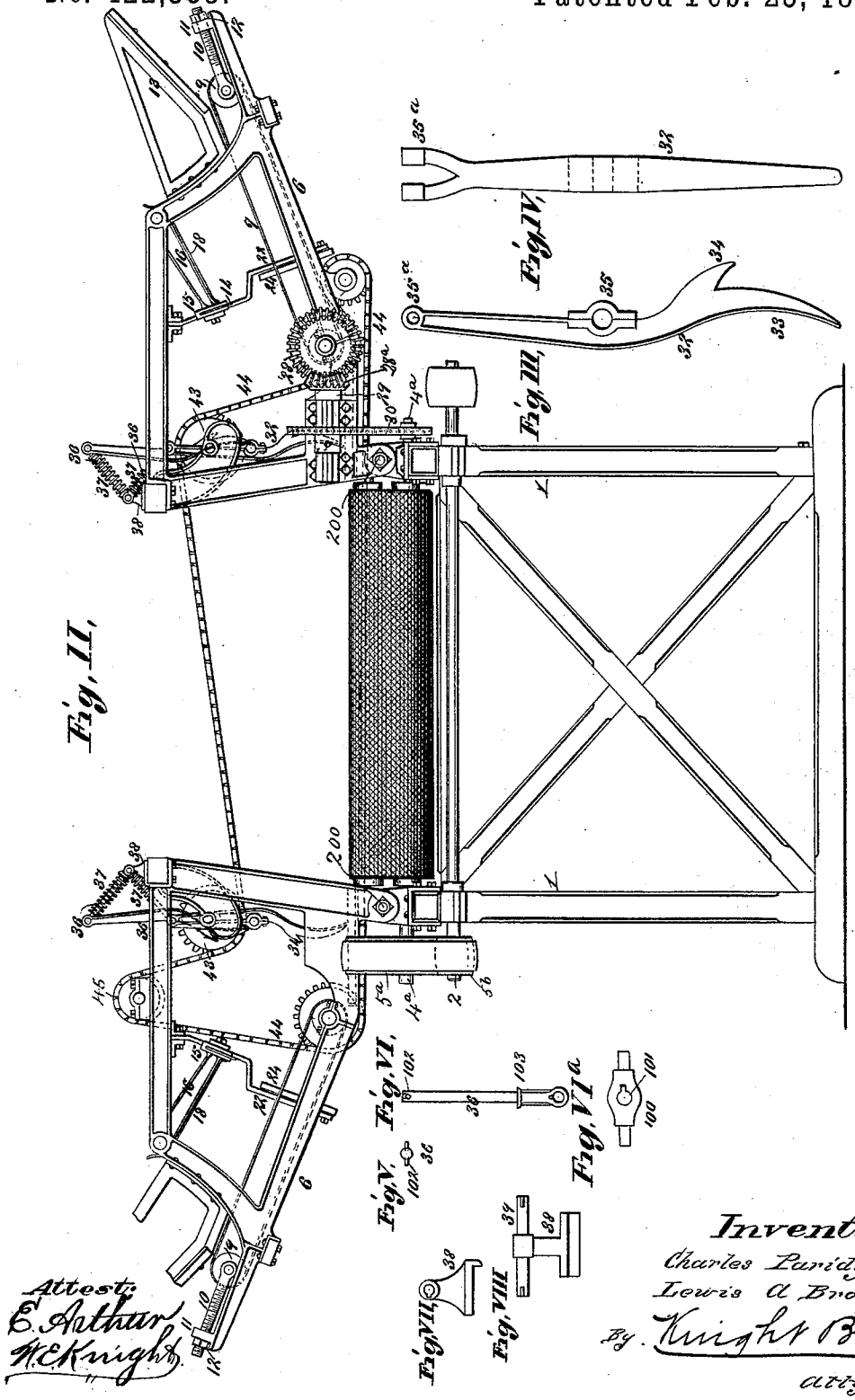

Fig. II.

Fig. IV.

Fig. III.

Fig. VI. Fig. VI.a

Fig. V. Fig. VIII. Fig. VII.

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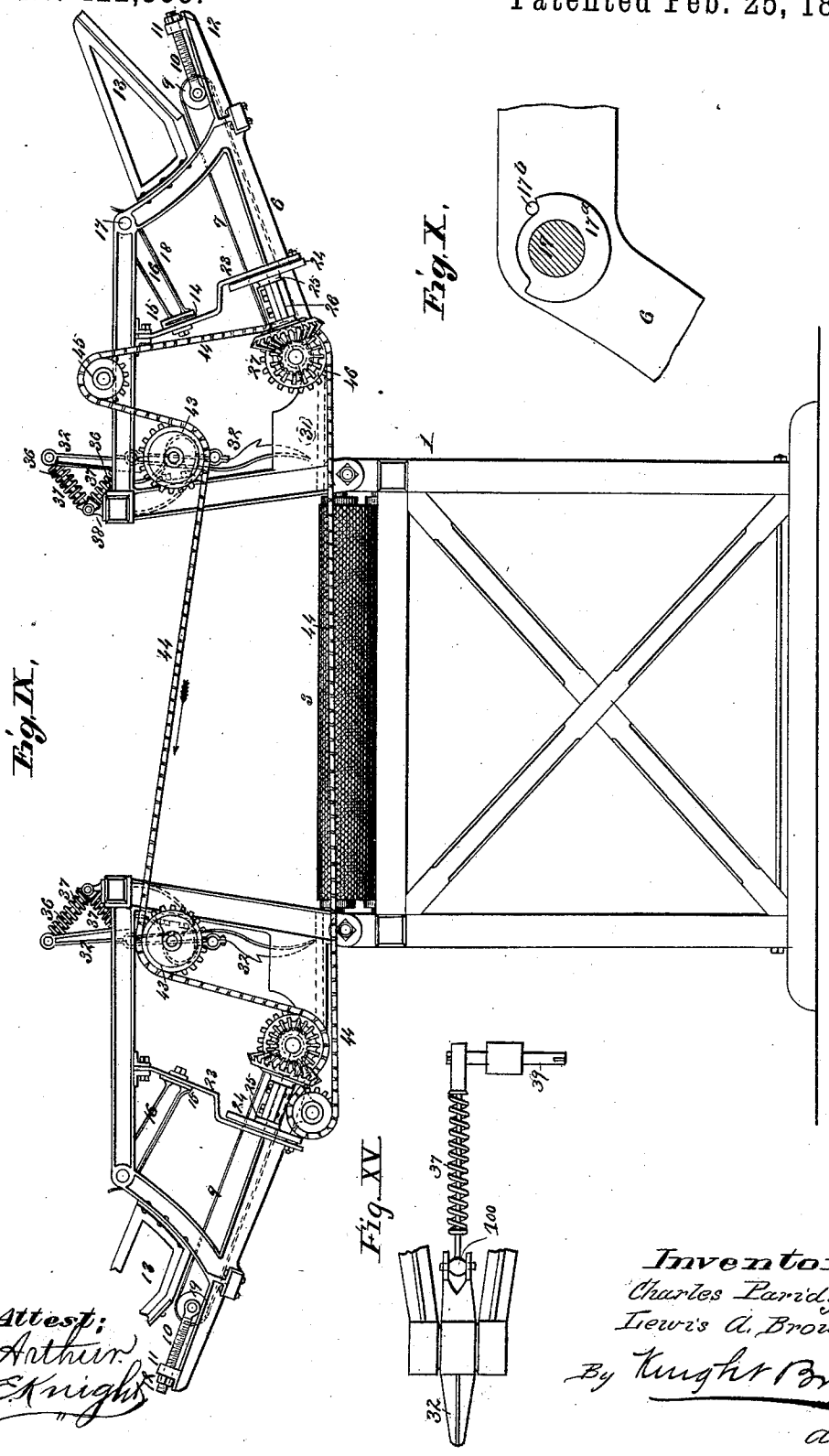

Fig. IX.

Fig. X.

Fig. XV.

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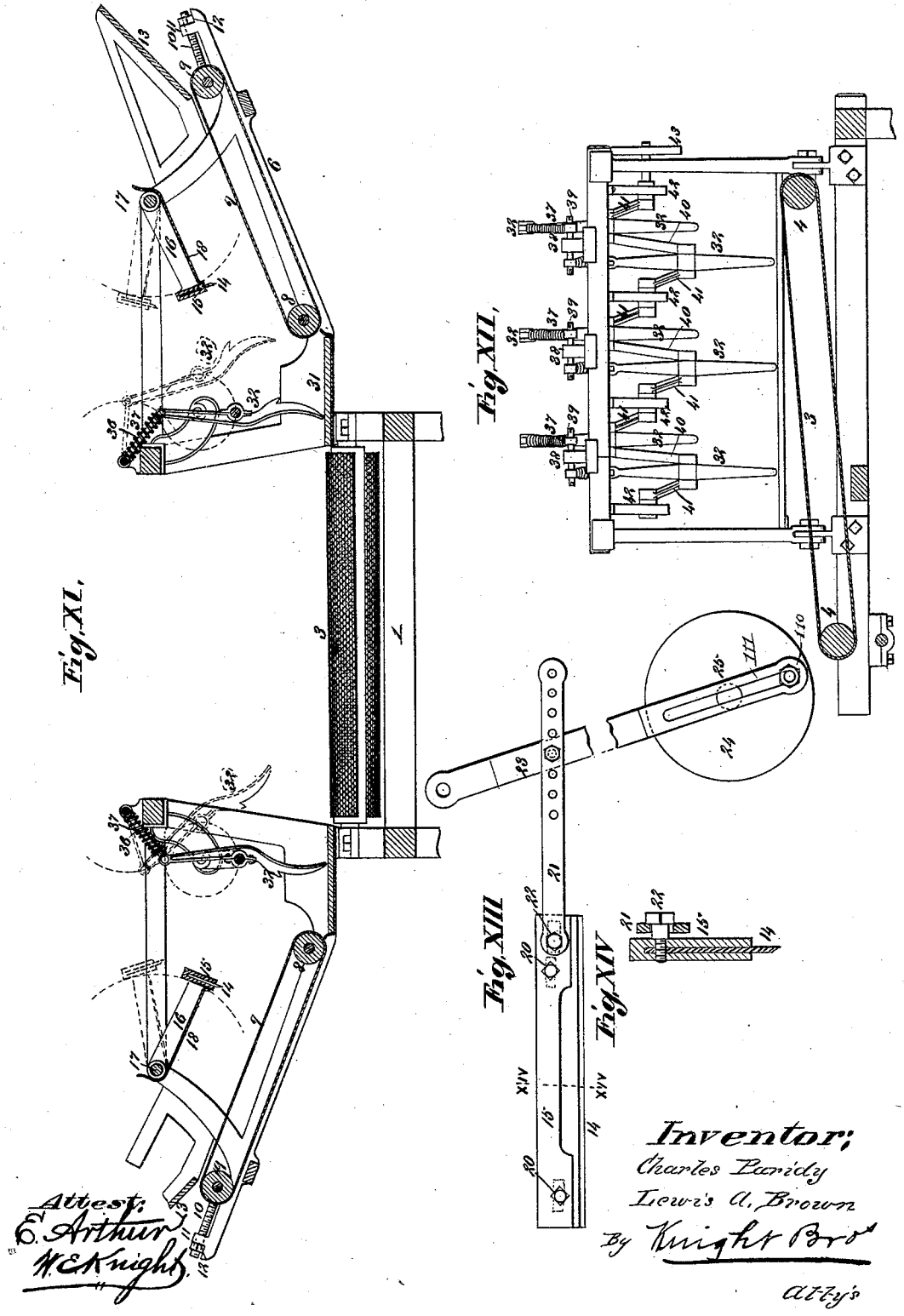

Fig. XI.

Fig. XII.

Fig. XIII.

Fig. XIV.

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UNITED STATES PATENT OFFICE.

CHARLES PARIDY, OF EAST ST. LOUIS, ILLINOIS, AND LEWIS A. BROWN, OF ST. LOUIS, MISSOURI, ASSIGNORS TO JACOB B. ULRICH, FREDERICK R. PETERS, WILLIAM P. H. TURNER, JAMES A. POLLOCK, AND DAVID E. McKAY.

BAND-CUTTER AND FEEDER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 422,353, dated February 25, 1890.

Application filed February 5, 1889. Serial No. 298,743. (No model.)

To all whom it may concern:

Be it known that we, CHARLES PARIDY, of East St. Louis, in the county of St. Clair and State of Illinois, and LEWIS A. BROWN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Band-Cutters and Feeders for Thrashing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a top or plan view of our improved band-cutter and feeder. Fig. II is a side elevation. Fig. III is a side view of one of the kicker-arms. Fig. IV is a front view of same. Fig. V is an end view of one of the spring-rods. Fig. VI is an elevation of same. Fig. VI^a is a view of one of the cross-pieces. Fig. VII is an elevation of one of the spring-rod brackets. Fig. VIII is a front view of same. Fig. IX is a side elevation of our machine, showing the opposite side to that shown in Fig. II. Fig. X is an enlarged detail view. Fig. XI is a vertical section taken on line XI XI, Fig. I. Fig. XII is a vertical section taken on line XII XII, Fig. I. Fig. XIII is an enlarged view of one of the cutters and the mechanism for operating it. Fig. XIV is an enlarged section taken on line XIV XIV, Fig. XIII. Fig. XV is a plan view showing the upper connection of the kicker-arms on an enlarged scale.

Our invention relates to certain new and useful improvements in devices for automatically cutting bands and feeding the grain-carrying straw to thrashing-machines.

Our invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, 1 represents part of the frame, and 2 the cylinder of a thrashing-machine.

3 represents an endless apron, upon which the material, after the bands are cut, is deposited, and which delivers the material to the cylinder of the thrashing-machine. This apron is mounted on rollers 4, having spindles 4^a, (see Fig. XII,) and is operated or moved by having belt-and-pulley connection 5′ 5^a 5^b (see Fig. I) with the cylinder of the thrasher.

We have shown the part to which our invention relates of double form, so that the machine may be fed from either or both sides; but it is evident that only one of the wings, with its accompanying parts, may be used, if desired.

As the devices on one side of the machine are the duplicates of those on the other, we will confine our description, and the reference-numerals are applied, to but one side.

6 represents a frame having an endless apron 7, mounted on rollers 8 and 9. The lower roller 8 has stationary bearings, while the upper roller may be adjusted (to keep the apron taut) by means of threaded rods 10, secured thereto and extending through lugs 11 on the frame 6. The rods have nuts 12 outside of the lugs 11, and by turning these nuts the roller 9 may be drawn away from the roller 8 and thus the apron tightened when necessary.

13 represents an incline upon which the sheaves are first thrown, and which delivers them onto the apron 7. While on the apron the bands of the sheaves are cut by a knife 14, supported in a slotted plate 15. (See Fig. XIV.) The plate 15 is secured to arms 16, mounted on a rod 17, journaled in the frame 6. (See Fig. I.) Beneath the arms 16 and extending from the rear of the rod 17 to the plate 15 is a guard plate or apron 18. (See Figs. I and XI.) By thus mounting the knife it is allowed or permitted to yield upwardly to accommodate itself to sheaves of different sizes. The upward movement of the knife is limited by notching one of the collars 17^a on the rod 17 and fitting in the frame 6 a pin 17^b, that works in this notch. (See Fig. X.) The knife is held in the plate 15 by bolts 20, which permit the knife to move longitudinally in the plate. (See Fig. XIII.) To the knife is connected a pitman 21 by means of a screw 22 or otherwise. The outer end of the pitman is adjustably connected to a lever 23, pivoted at its upper end to the frame 6, and connected by a pin 110, working in a slot

111 at its lower end, to a disk or wheel 24 (see Fig. XIII) on a short shaft 25, journaled in a box 26, supported by the frame 6. (See Figs. I and IX.) It will be seen that as the shaft 25 is turned the knife will be reciprocated in its supporting-plate. The shaft 25 is turned by having bevel-wheel connection 27 with one end of the roller 8, and the roller is turned by having bevel-wheel connection 28 28^a with a short shaft 29, which has a belt-connection 30 with one of the rollers 4 of the apron 3. (See Fig. I.) The apron 7 delivers the material, after the bands are cut, onto a substantially horizontal board 31. (See Fig. IX.) From here the material is thrown onto the apron 3 by kicker-arms 32. The shape of these arms is illustrated in Figs. III and IV. There are a number of them, each having a curved lower end 33, a prong 34 for keeping the material down and assisting in feeding it forward, a journal-box 35, and a bifurcated perforated upper end 35^a for receiving the cross-piece 100. The upper ends of these arms are connected by rods 36, surrounded by springs 37, to brackets 38, secured to the frame 6. Each bracket has two of the arms connected to it, (see Fig. XII,) and the connection is made by means of rods or pins 39. One of the rods 36 is shown in Figs. V and VI, and one of the brackets 38 and rods 39 is shown in Figs. VII and VIII. The rods are made fast to the arms by means of cross-pieces 100 (see Fig. VI^a) that fit in the bifurcated ends of the arms and have central holes 101, through which the rods pass. The rods are held therein by pins 102. The springs 37 are located between the cross-pieces 100 and collars 103 on the inner ends of the rods, and it will be understood that they will allow the lower ends of the arms to yield to unusual or excessive strain and thus avoid danger of breakage.

The arms 32 are connected by means of their central boxes 35 to a crank-shaft consisting of long links 40 and short links 41, supported in hangers 42, secured to the under side of the frame 6. (See Fig. XII.) The short links extend from the hangers to the arms and the long links from one arm to another. The links are all rigidly connected together, (with short horizontal parts to receive the arms and hangers, as shown,) so that they form one permanent shaft. The shaft is turned by a chain-wheel 43 on one end, engaged by a belt 44, (see Fig. IX,) which may receive power by passing over an idler 45 and around a chain-wheel 46 on the apron-roller 8. This belt may extend across to the other wing of the apparatus, as shown, to operate its parts.

The movement of the arms (when the machine is in operation) is illustrated in Figs. IX and XI, and their office is to stir up and deliver the material to the apron 3. The prongs 34 serve to keep the material from moving up too high on the arms and becoming tangled in the crank-shaft, and they also catch part of the stuff, and thus serve to assist in the feeding.

The frames 6 are hinged to the body of the thrasher, as shown at 200, Fig. II, so that they, with the parts they carry, may be folded over onto the machine for transportation.

We claim as our invention.

1. In a feeder, the kicker-arm 32, having the curved lower end 33, the downwardly-projecting prong 34, journal-box 35, and bifurcated perforated upper end 35^a, all substantially as and for the purpose specified.

2. In a feeder, the combination of the crank-shaft, the kicker-arms mounted on the crank-shaft and having the upper perforated bifurcated ends 35^a, and means for connecting the said upper ends to the fixed frame of the machine, consisting of the perforated cross-pieces 100, shouldered rods 36, connected to the frame and passing through the cross-pieces, and springs 37 between the cross-head and the fixed portion, all substantially as set forth.

3. In a band-cutter and feeder, the combination of the incline 13, the traveling apron 7, onto which the incline delivers the sheaves, the pivotal frame carrying guard 18 and knife 14, and limited in movement by the notched collar 17^a and pin 17^b, the horizontal board 31, onto which the apron delivers the sheaves, and the kicker-arms mounted on a crank-shaft above said horizontal board, all substantially as shown and described.

4. The combination, with a thrashing-machine, of an incline 13, traveling apron 7 below said incline, a pivotally-mounted knife above said apron, a horizontal board 31 below one end of the apron and adapted to deliver onto the traveling apron of the thrasher, and feeding kicker-arms above said board, the whole being mounted in a frame and secured to the side of the thrasher, substantially as shown and described.

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In presence of—
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EDW. S. KNIGHT.