(No Model.) 3 Sheets—Sheet 1.

J. W. TRIPP.

BAND CUTTER AND FEEDER.

No. 492,067. Patented Feb. 21, 1893.

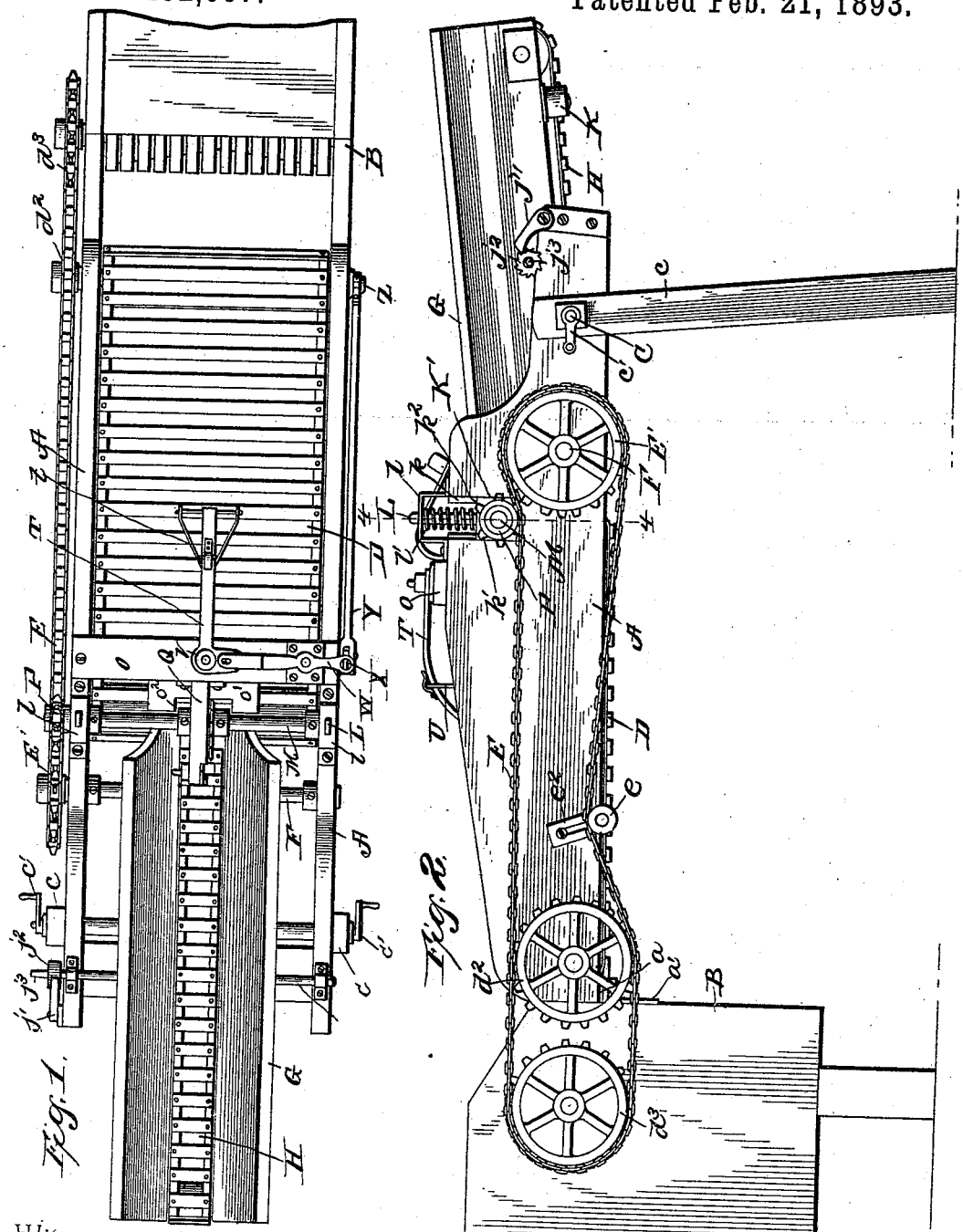


Fig. 1.

Fig. 2.

Witnesses

E. C. Hardeman

D. P. Wolhampter.

Inventor

J. W. Tripp

By his Attorneys,

C. A. Snow & Co.

(No Model.) 3 Sheets—Sheet 2.

J. W. TRIPP.

BAND CUTTER AND FEEDER.

No. 492,067. Patented Feb. 21, 1893.

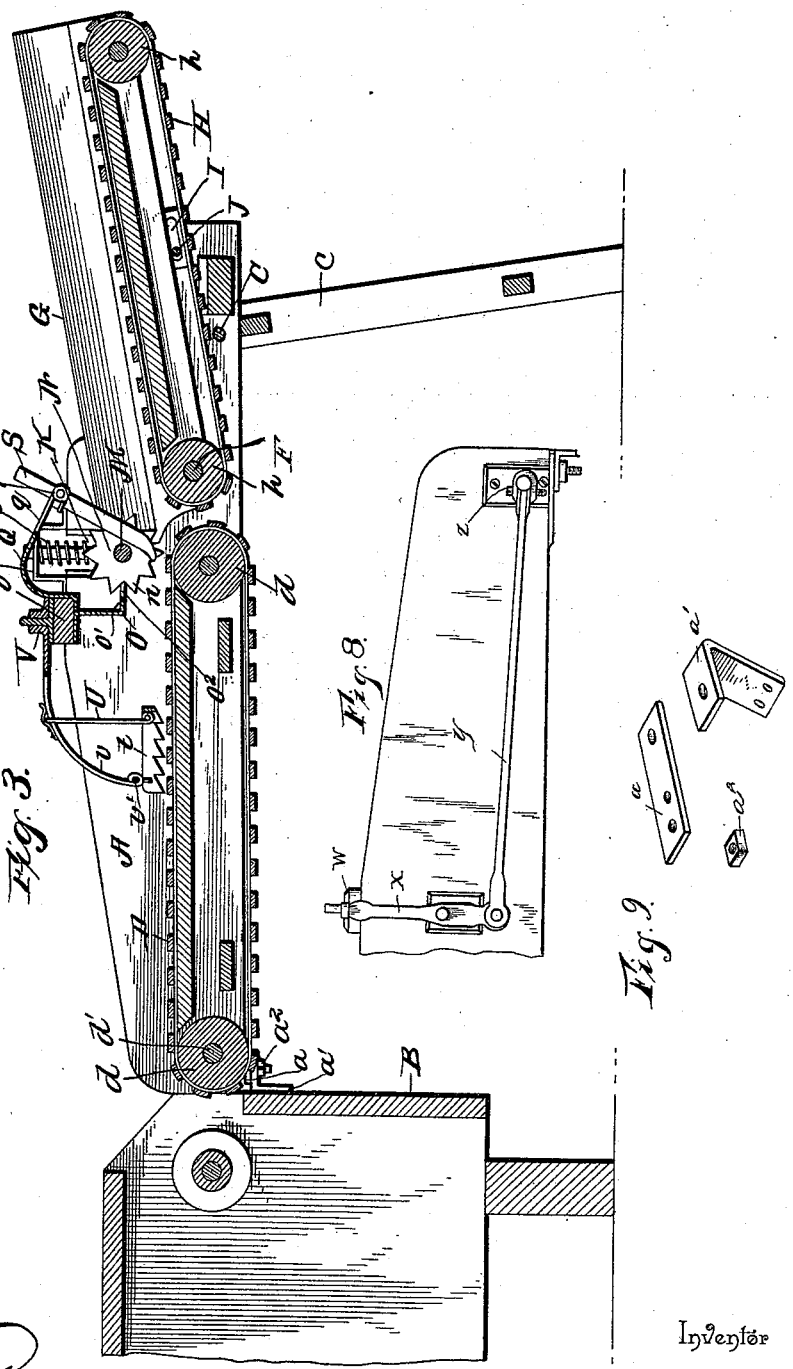


Fig. 3.

Fig. 8.

Fig. 9.

Witnesses
E. C. Hardeman
D. O. Walkup

By his Attorneys,
J. W. Tripp
C. A. Snow & Co.

Inventor

(No Model.) 3 Sheets—Sheet 3.

J. W. TRIPP.

BAND CUTTER AND FEEDER.

No. 492,067. Patented Feb. 21, 1893.

Fig. 7.

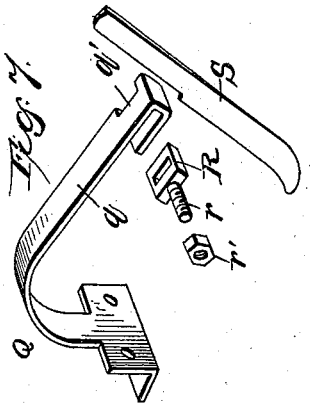


Fig. 5.

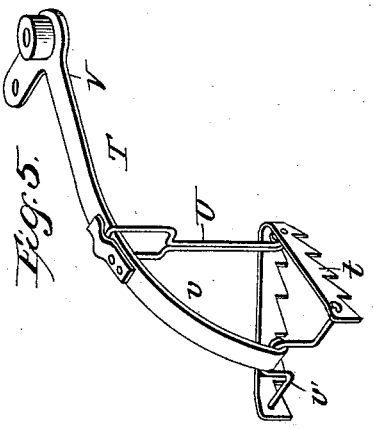


Fig. 6.

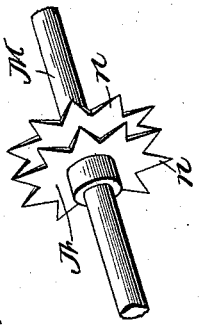
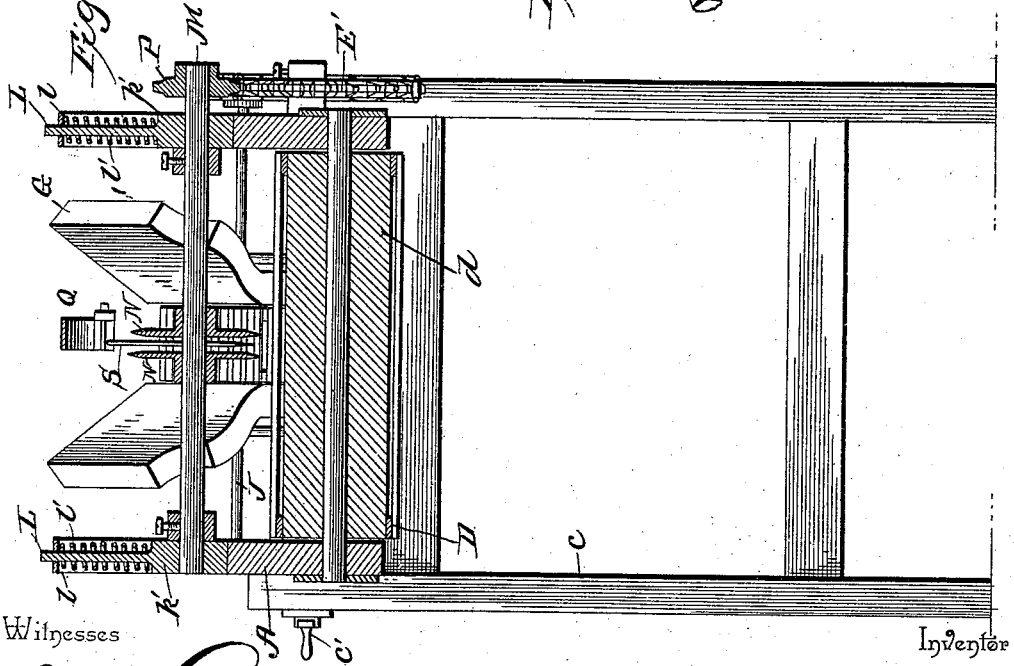


Fig. 4.



Witnesses

E. C. Hardeman.

D. P. Wolhaupter,

Inventor

J. W. Tripp.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN W. TRIPP, OF SEDALIA, MISSOURI, ASSIGNOR OF ONE-THIRD TO MAY B. MASON, OF FALLS CITY, NEBRASKA.

BAND-CUTTER AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 492,067, dated February 21, 1893.

Application filed June 11, 1892. Serial No. 436,382. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. TRIPP, a citizen of the United States, residing at Sedalia, in the county of Pettis and State of Missouri, have invented a new and useful Band-Cutter and Feeder, of which the following is a specification.

This invention relates to band cutters and feeders for thrashing machines; and it has for its object to provide an improved machine of this character whereby the bundles or sheaves of grain are released from their bands, evenly spread upon the carrier and distributed to the cylinder of the thrasher.

To this end the main and primary object of the invention is to provide certain novel improvements in the several devices combining to make a complete and efficient band cutter and feeder.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings;—Figure 1 is a top plan view of a band cutter and feeder constructed in accordance with this invention. Fig. 2 is a side elevation of the same, from one side. Fig. 3 is a vertical longitudinal sectional view of the same. Fig. 4 is a vertical transverse sectional view on the line 4—4 of Fig. 2. Fig. 5 is a detail in perspective of the bell-crank spreader. Fig. 6 is a similar view of the sheaf or bundle grasping disks, Fig. 7 is a detail perspective view of the knife attachment. Fig. 8 is a detail elevation of a portion of one side of the main feeder frame, opposite to that shown in Fig. 2. Fig. 9 is a detail in perspective of the end brackets and bolt plate connecting the frame to the thrasher.

Referring to the accompanying drawings;—A represents the main feeder box having at the delivering end thereof the bolt plates a, resting upon the supporting brackets a', at the cylinder end of the thrasher B, and is held in such position by means of the nuts a^2, engaging the bolts of said plates, providing a removable attachment.

Pivotally mounted upon the supporting bolts C near the outer end of the frame A is the removable leg frame c, held in position to support said end of the frame by means of the crank nuts c', engaging said supporting bolts so that the said leg frame can be readily removed when necessary.

Working through the feeder box or frame A toward the cylinder end of the thrasher is the endless feeder apron D, passing over the belt rollers d, mounted upon the shafts d', which are journaled in the delivering end of the box and an intermediate point therein respectively. The end roller over which said belt passes is driven by means of the sprocket wheel d^2, mounted upon one end of the roller shaft and receiving the endless sprocket chain E, which sprocket chain receives its motion from the wheel d^3 carried by the cylinder shaft of the thrasher. Said sprocket chain is held in mesh with the sprocket wheel d^2, by means of the vertically adjustable chain roller e, carried upon the lower end of the slotted roller plate e^2, adjustably secured to one side of the feeder box or frame. The chain E passes from the wheels d^2 and d^3, to the sprocket wheel E', mounted upon one end of the transverse shaft F, journaled in the feeder box or frame adjacent to the receiving end of the feeder apron or belt within the box or frame. The said transverse shaft F, which receives its motion from the chain E forms a pivotal support for the inner end of the auxiliary feeder box or trough G. The said auxiliary feeder box G, as stated, is pivotally mounted at its inner end upon the transverse shaft F, and is of an approximate V-shape so as to accommodate a single bundle or sheaf, which is designed to be carried through said auxiliary apron to the main apron, one at a time by means of the smaller auxiliary endless feeder apron H working through the bottom of the trough or box G, and over the belt rollers h mounted within the trough or box at each end thereof, and one of which is carried by the transverse shaft F, so as to impart motion to the auxiliary apron in the same direction as the main feeder apron D. The said feeder box or trough G is provided at a point intermediate its ends with the depending horizontally slotted adjustment plates I, secured to opposite

lower edges of the same below the belt traveling therein, and said slotted plates receive the adjusting crank shaft J. The crank shaft J is journaled in suitable bearings upon the outer end of the feeder box or frame A, and is provided with a central depending crank portion working in said slotted plates, so that as the shaft is turned in either direction, the pivotally supported auxiliary box or trough is correspondingly raised or lowered to adjust the same to the requisite feed. The said crank shaft and the feeder box adjusted thereby are held in any adjusted position, by means of the securing dog or pawl j', pivotally mounted upon one end of the feeder box A and engaging the ratchet wheel j^2, secured to one end of said crank shaft which shaft may be operated by means of a suitable handle or key placed upon the squared end j^3 thereof. Belt guide rollers K are mounted beneath lower opposite faces of the box or trough G on each side of the lower portion of the endless apron passing therethrough so as to hold said apron to its place and work.

The feeder box or frame A is provided in opposite sides thereof directly over the intermediate belt roller d, with the bearing slots K′ within which are secured the vertical guide lugs or tongues k, over which are mounted to slide the vertically movable bearing blocks k', having the side grooves k^2 taking over said vertical guide lugs or tongues. The said bearing blocks k', are provided with the upwardly extending guide arms L, working through the perforated bracket l, secured over the open upper ends of the slots K so as to guide and steady the said blocks in their movement. Coiled springs l', are mounted over the guide arms L between the top brackets l, and the top of the bearing blocks k' so as to normally press the latter toward the lower ends of the bearing slots K. The bearing blocks form bearings for the journal ends of the horizontal feed shaft M, extending through the main feeder box directly in front of the inner pivoted end of the auxiliary box or trough G, and carry the parallel and similar feeding disks N. The feeding disks N are mounted to revolve with the shaft M and are provided with a periperal series of V-shaped teeth n which are designed to pierce the sheaf or bundle of grain as it reaches the inner and lower end of the auxiliary bundle feeder, and force the same onto the main feeding apron D. In order to secure this force feed, the said feeding disks are arranged directly over and partly within the inner end of the auxiliary feeder and are vertically adjustable together with their shaft in order to yield to the different sizes of bundles. The feeding disks N are cleared of clinging grain by means of the rear guard plate O secured to the transverse supported bar o, which bar extends transversely across the top of the feeder box or frame O. The guard plate or fender O is provided with a lower flanged end o', having a notch or slot o^2 facing the shaft M and through which passes the teeth of the parallel feeding disk so that any grain which may be caught in the teeth of the disks is removed from the same and prevents them from clogging. It may be observed at this point that a vertically adjustable tension wheel P, is mounted upon one end of the horizontal feed shaft M and bears upon the top portion of the endless drive chain E so as to keep the same at the proper tension to correspond with the feed of the disks N, carried by the same shaft.

Secured to one side of the transverse supporting bar o is the forwardly extending yielding knife arm Q having an outer flanged end q provided with a notch or notches q' formed in one side. The flanged end of the knife arm receives the slotted knife plate R, snugly and removably fitting in said flanged end and provided with a bolt arm r which is engaged by the securing nut r' working thereover and against one side of the flanged end of the knife arm, so as to clamp the knife S in position within the notched side of the arm. The shank of the knife S passes through the slot in the knife plate and is designed to be clamped within said notches in the manner described, and the cutting portion of the knife projects between the parallel feeding disk so that as said disk grasps the sheaf or bundle of grain, the same forces the band against the cutting edge of the knife therebetween so as to insure the cutting of such band. After the band of the bundle has been cut in the manner described, the said bundle is forced out of the auxiliary feeder and onto the main endless apron upon which it is evenly spread by means of the laterally vibrating and longitudinally swinging spreader T. The said spreader T comprises a V-shaped frame having lower toothed edges t, which as the said spreader is swung back and forth within the feeder box or frame from side to side grasp the grain and comb the same evenly over the apron, so that there will be an even distribution thereof to the cylinder of the thrasher. A swinging supporting arm U, is pivotally connected to the apex of the spreader and the oscillating bell crank V. The said bell crank V is pivotally mounted upon the supporting bar o, and has a curved spreader arm v, curving from the point of pivot upon said bar down into the feeder box or frame A and carries upon such end within the box or frame, the swinging crank rod v' secured transversely between the opposite ends of said spreader frame T. It will be readily seen that as the crank shaft E is oscillated to swing back and forth within the feeder box, the spreader T is vibrated in close proximity to the endless apron D passing therethrough. The crank rod v allows the outer ends of the V-shaped spreader to raise and lower according to the bulk of grain it comes in contact with while the swinging supporting arm U allows the spreader to vibrate in a direction independent of its lateral oscillation or vibration.

A horizontal lever W is pivotally mounted upon the supporting bar *o* and is loosely connected with the oscillating bell crank V at one end, and at the other end loosely with the upper end of the vertical side lever X. The side lever X is pivotally mounted upon one side of the feeder box or frame A and is pivotally connected at its lower end to the operating rod or arm Y, the other end of which is connected with and operated by the crank or eccentric Z carried upon one end of the end roller shaft *d'* which receives its motion from the wheel d^3. It will be at once apparent that simultaneously with the movements of the feeding devices, a slow oscillatory vibrating motion is imparted to the spreading device as outlined, in order to complete the entire machine.

From the foregoing description it is thought that the operation and many advantages of the herein described band cutter and feeder are apparent without further description.

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

1. In a feeder for thrashing machines, the combination with the main feeder box and endless apron passing therethrough from an intermediate point to one end; of a transverse shaft mounted within said box near the intermediate end of the apron, a V-shaped auxiliary feeder trough or box pivotally mounted at one end upon said shaft and provided at opposite bottom edges thereof with depending horizontally slotted adjustment plates, an endless belt passing through said auxiliary feeder box and over said shaft, an adjusting shaft passing through the slots of the plates and having its ends beyond the plates cranked and journaled in the sides of the main feeder box, a ratchet wheel mounted upon one end of the crank shaft, and an adjacent pawl engaging said ratchet wheel, substantially as set forth.

2. In a band cutter and feeder for thrashing machines, the main feeder box, the endless feeder apron passing through said box, an inclined auxiliary bundle or sheaf feeder box adjustably mounted in one end of the main feeder box and carrying an auxiliary apron, parallel vertically yielding force feed disks arranged above the adjacent ends of said endless and auxiliary aprons, and a fixed band knife suspended between said disks, substantially as set forth.

3. In a band cutter and feeder for thrashing machines, the combination with the main feeder and the auxiliary bundle or sheaf feeder delivering to one end of the same; of the vertically movable toothed feed disks arranged adjacent to each other and side by side to form an intermediate space, a yielding knife arm secured above said disks, and a knife blade secured in said knife arm and projecting in said intermediate space, substantially as set forth.

4. The combination with a feeder and feed devices; of a spring knife arm extending over the feeder and folded upon itself at one end, the arm and folded portion being recessed at one side, a slotted knife plate removably fitting in the fold and provided with a bolt arm, a knife blade inserted in the slot of the plate and registering in the recessed side, and a securing nut engaging said bolt arm to clamp the blade in said recessed side and prevent the same and the knife plate moving out of position.

5. The combination with the feeder box, and the endless apron passing therethrough; of a longitudinally swinging and laterally vibrating V-shaped spreader frame swinging through said box over the apron therein, substantially as set forth.

6. The combination with a feeding apron, of a longitudinally swinging and laterally vibrating V-shaped spreader having lower toothed edges and swinging horizontally from side to side over and in close proximity to the feeder apron, substantially as set forth.

7. The combination with the feeder box and the endless apron passing therethrough; of an oscillating bell-crank lever pivotally mounted upon said box and provided with a curved swinging spreader arm, an oscillating and vibrating V-shaped toothed spreader, a swinging supporting arm pivotally connected to the apex of the spreader and said bell crank spreader arm, a swinging crank rod pivotally connected to the lower end of said spreader arm and the ends of the spreader, and means for moving said bell crank, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN W. TRIPP.

Witnesses:
C. C. WILLIAMS,
H. T. WILLIAMS.