(No Model.) 2 Sheets—Sheet 1.

J. EAGLESTON.

HARVESTER REEL.

No. 359,855. Patented Mar. 22, 1887.

Fig. 1.

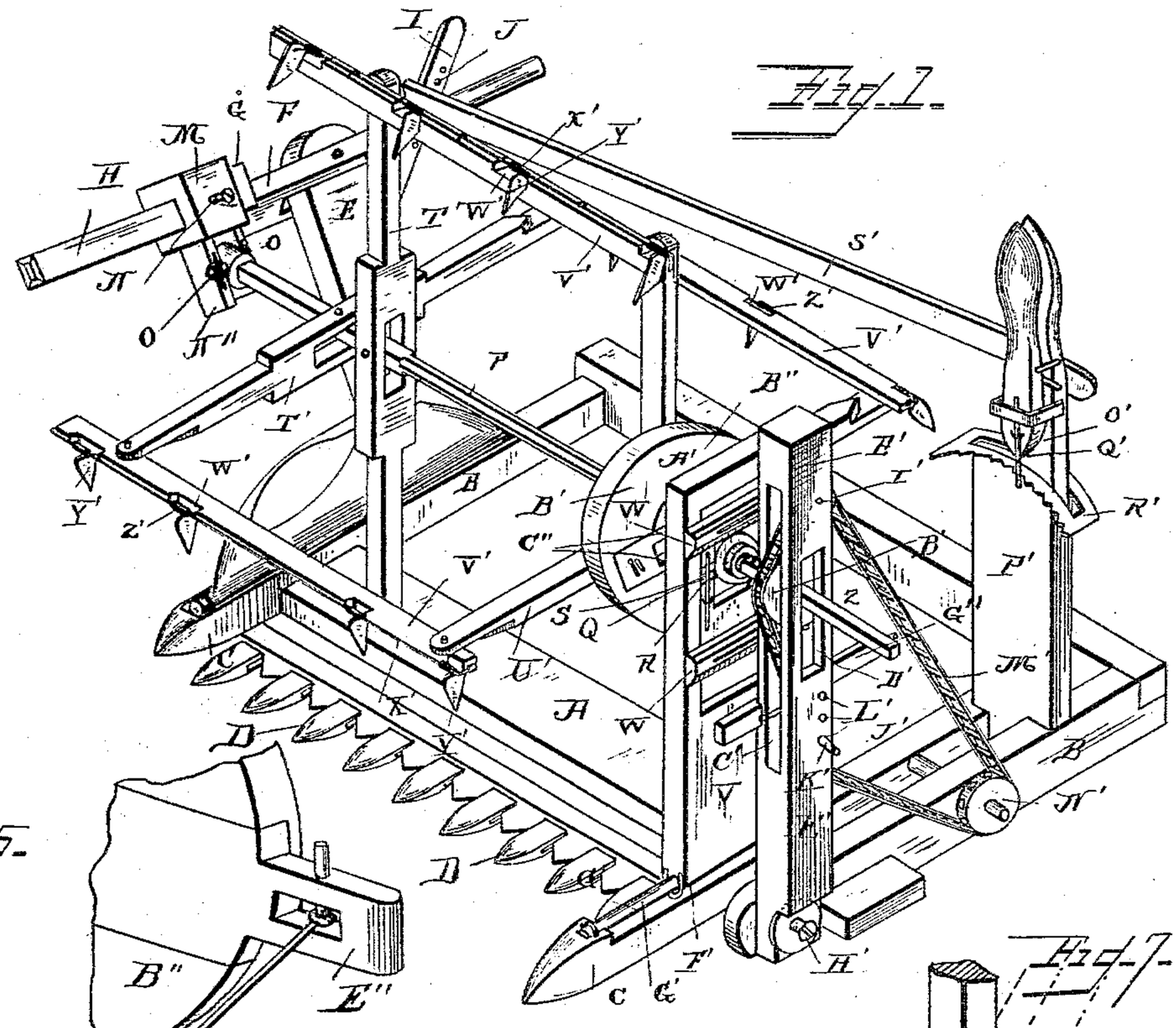


Fig. 6.

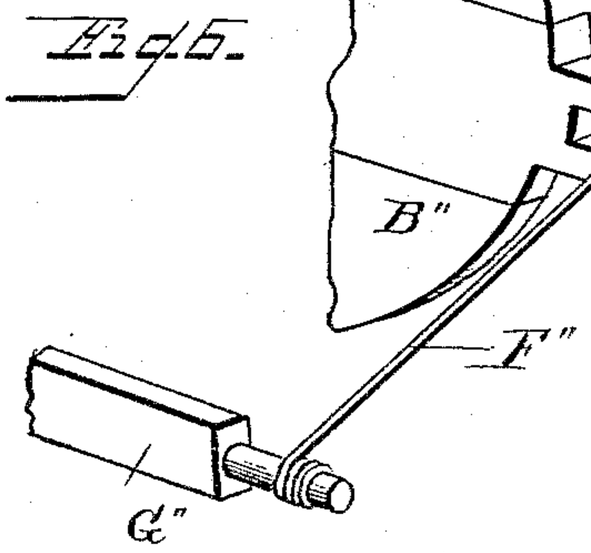


Fig. 7.

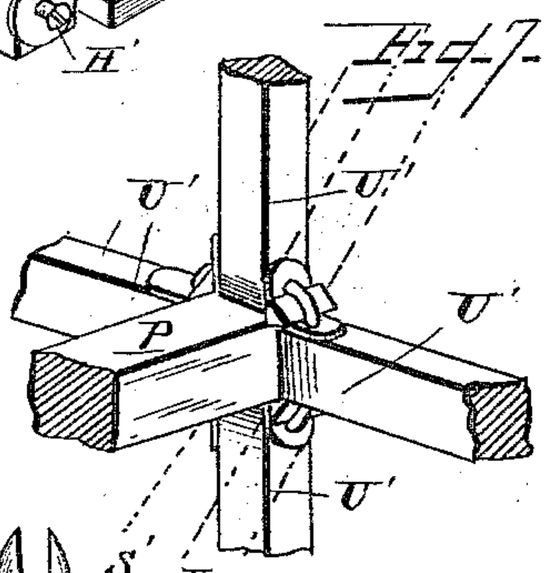
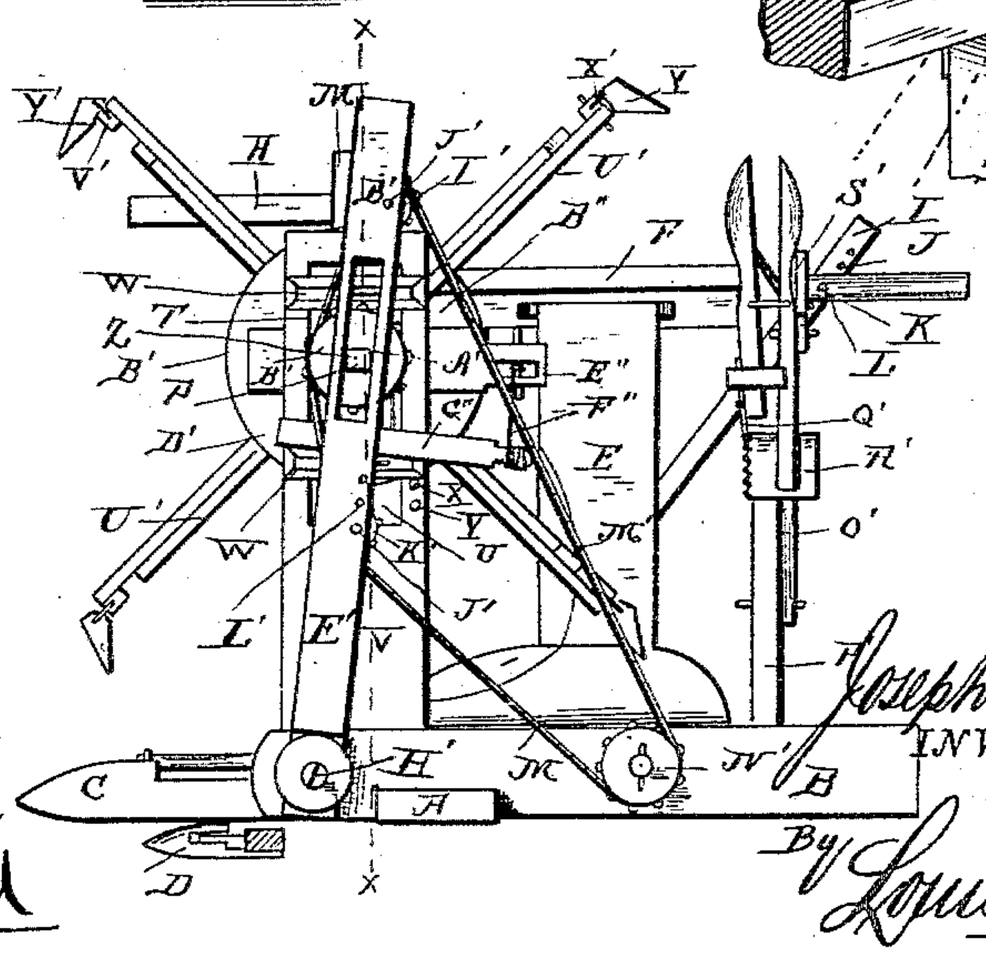


Fig. 2.



WITNESSES

F. L. Durand

Arthur L. Morsell

Joseph Eagleston,
INVENTOR

By Louis Bagger & Co.
Attorneys

(No Model.)

2 Sheets—Sheet 2.

J. EAGLESTON.

HARVESTER REEL.

No. 359,855. Patented Mar. 22, 1887.

Fig. 1.

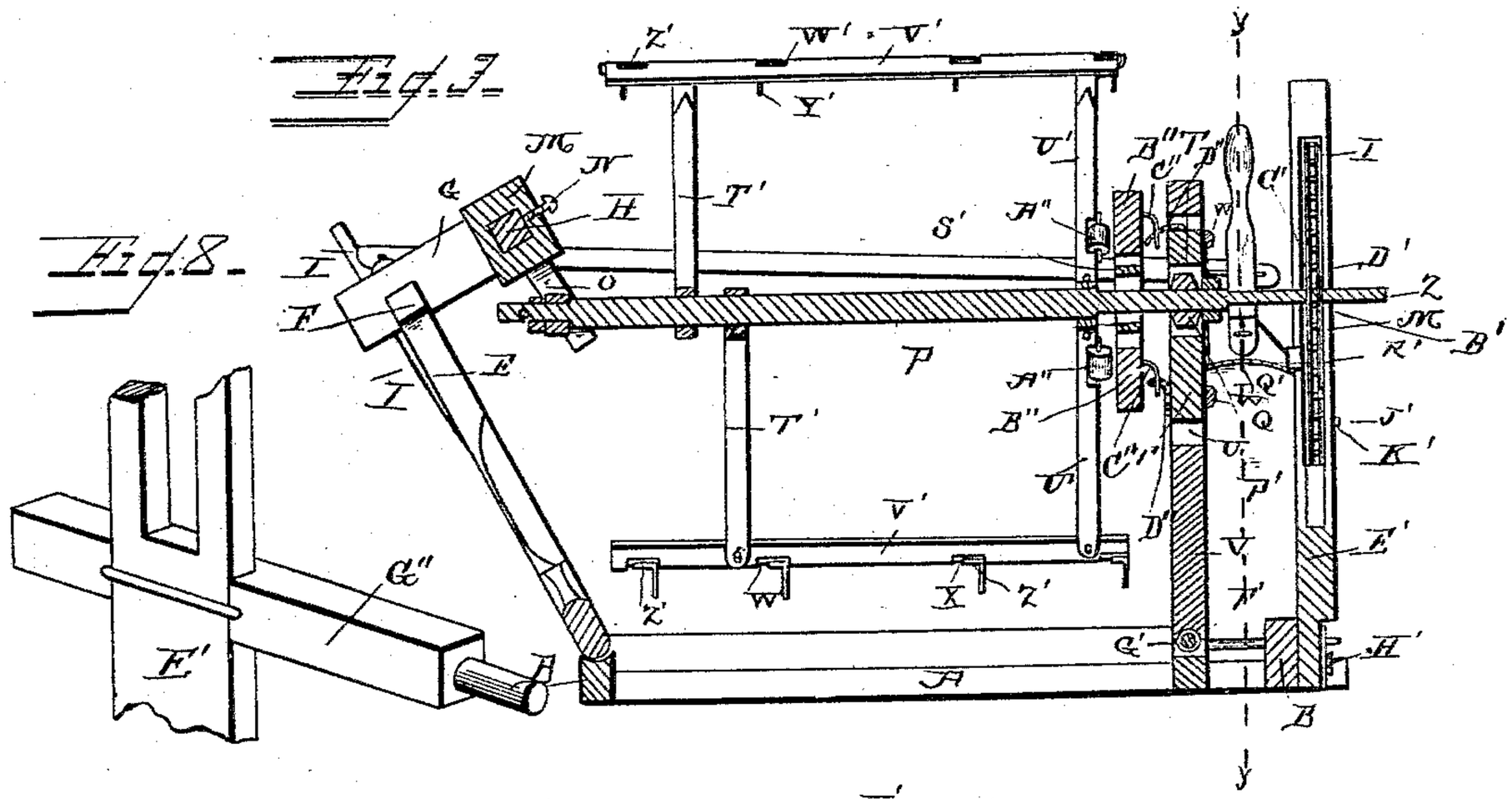


Fig. 2.

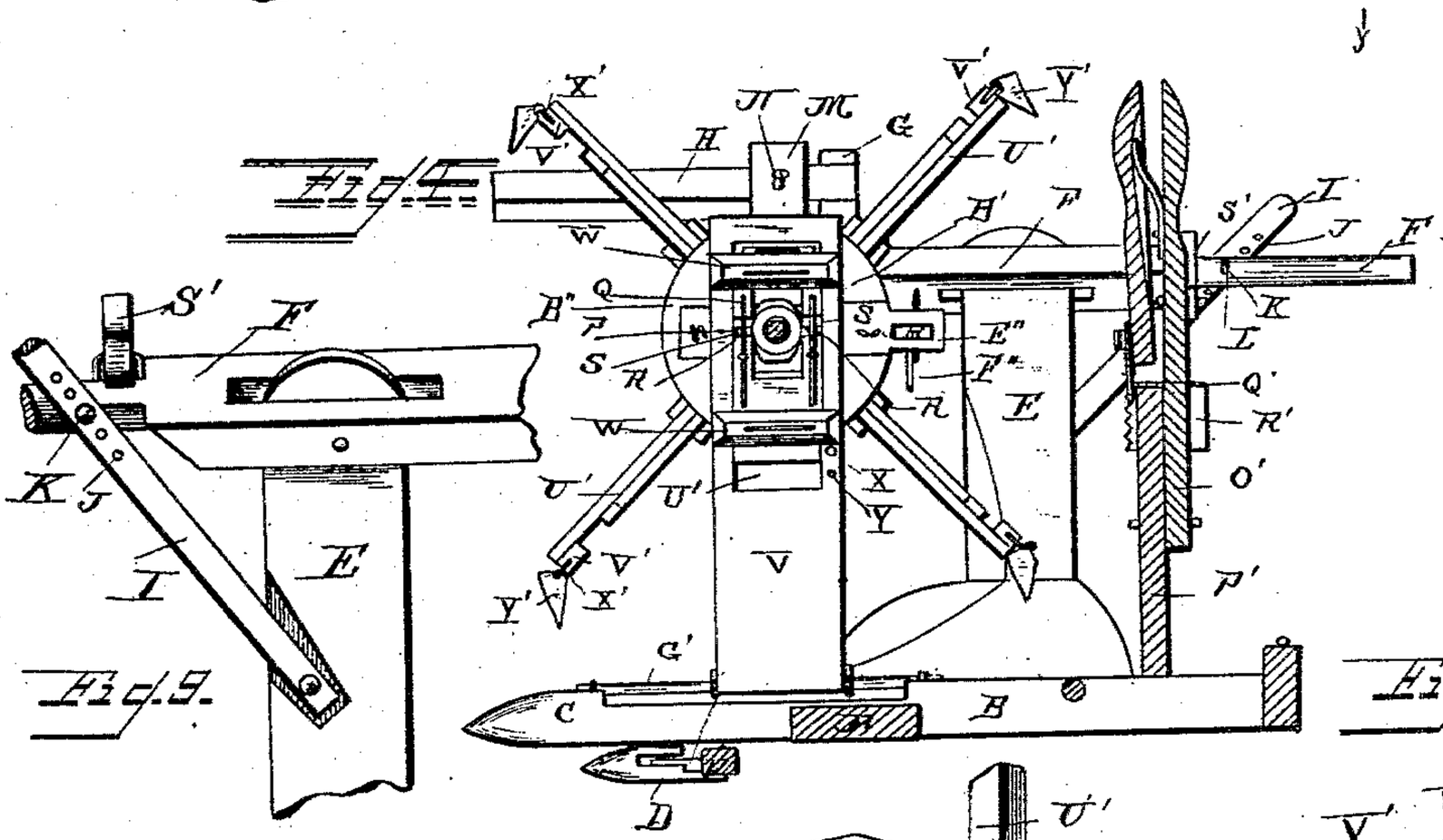


Fig. 3.

Fig. 4.

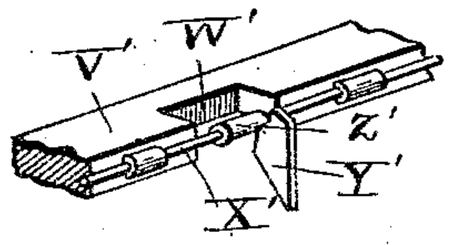
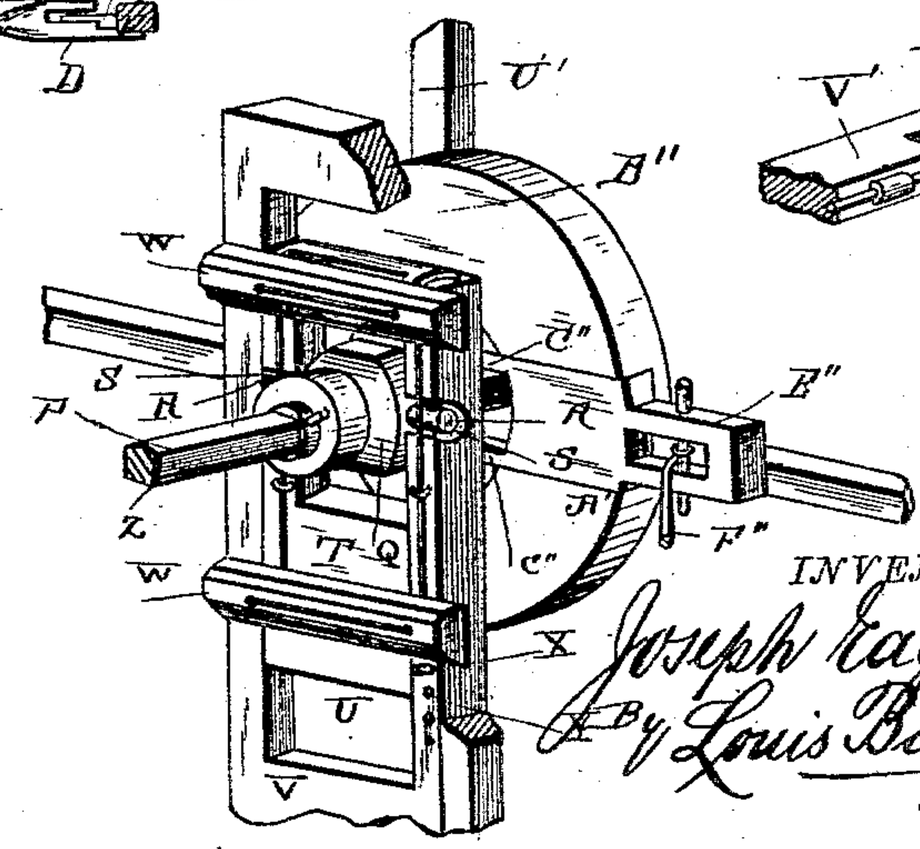


Fig. 5.



WITNESSES

F. L. Durand

Arthur L. Morsell

INVENTOR

Joseph Eagleston,

By Louis Bagger & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH EAGLESTON, OF ORIENT, OHIO, ASSIGNOR OF ONE-HALF TO JEREMIAH S. McKINLEY, OF SAME PLACE.

HARVESTER-REEL.

SPECIFICATION forming part of Letters Patent No. 359,855, dated March 22, 1887.

Application filed August 30, 1886. Serial No. 212,215. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH EAGLESTON, a citizen of the United States, and a resident of Orient, in the county of Pickaway and State of Ohio, have invented certain new and useful Improvements in Harvester-Reels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of as much of the frame of a harvester as will illustrate my improved reel. Fig. 2 is an end view. Fig. 3 is a vertical sectional view on line *x x*, Fig. 2. Fig. 4 is a vertical sectional view on line *y y*, Fig. 3. Fig. 5 is a perspective detail view of one end of the reel and its adjustable bearing and tilting disk; and Figs. 6, 7, 8, 9, and 10 are detail views of different parts of the device.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of reels for harvesters, and especially for grain-binding harvesters, in which the radiating arms supporting the beaters or bats of the reel may be tilted at different angles to bring the grain into the proper position to the finger-bar; and it consists in the improved construction and combination of parts of such a reel, having means for presenting the grain, from whatever side it may be leaning, to the cutting apparatus, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A A indicate the side sills of the grain-platform, and B B the end sills of the same. The end sills are provided at their forward ends with pointed shoes C C, and connected by means of the finger-bar D. The outer end sill has an upright, E, pivoted upon it, which supports a bar, F, pivoted by means of a longitudinal slot and pin upon the top of this upright, so as to permit a rocking motion upon the same. An arm, G, is secured at a right angle to the forward end of this bar F, and an arm, H, projects forward at a right angle to the arm G from its inner end, while an arm, I, is pivoted at its lower end to the side of the upright E, and projects upward and rearward, having a number of perforations, J, into which fits a pin, K, which also fits into a perforation, L, in the rear end of the bar F, pivoted upon the upright E, so that the bar F may be adjusted at different angles by means of the said perforated and pivotal arm I and the pin K. A block, M, slides upon the forwardly-projecting arm H, and has a set-screw, N, for holding it when adjusted upon the same, and at the lower end of this block M is a bifurcated bracket, N″, in which is pivoted a trunnion-sleeve with its laterally-projecting trunnions O O. The reel-shaft P is journaled in this trunnion-sleeve, and has its other end journaled in a sleeve-bearing, Q, having trunnions R R at its sides, with which it rocks in the bearings S S, formed in the side pieces of a frame, T, sliding in a slot, U, in an upright, V, the said frame having cross-pieces W W at its upper and lower ends, bearing or sliding against the inner side of the upright V, a pin, X, fitting in one of a series of holes, Y, in the face of the upright V, limiting the vertical slide of the frame T.

The inner end, Z, of the reel-shaft is square or polygonal in cross-section and slides in the center of a wheel, B′, which slides within two transverse longitudinal slots, C′ and D′, in an upright, E′, the said slots extending through the sides and through the front and rear sides of the upright, the wheel and the shaft sliding in the slots.

The slotted upright V, having the sliding and bearing frame T, is pivoted at its lower end upon a longitudinal rod, G′, upon the inner end sill, sliding upon the said rod.

The upright E′, having the two slots intersecting each other and forming a recess, is pivoted to rock in a vertical plane upon a bolt, H′, and has a pulley, I′, journaled in the upper end of the longer slot extending through from front to rear of the upright E′, while a similar pulley, J′, is journaled upon a bolt, K′, near the lower end of the same slot, the said pulley being adjustable by means of a series of holes, L′, in the sides of the upright. A chain, M′, passes over these pulleys and the wheel B′ in the slot and passes around a drive-pulley, N′,

journaled upon the frame and receiving its motion from the machinery of the reaper.

It will be seen that slack may be taken out of the chain by adjusting the lower pulley, J′, while the wheel upon the reel-shaft may move up or down in the slot and still have the chain passing over its periphery revolving it.

A lever, O′, is pivoted at its lower end upon an upright, P′, at the rear of the platform or table, near the inner end of the same, and this lever rocks transversely to the line of travel and has a spring-latch, Q′, engaging a segmental rack, R′, and a rod, S′, pivoted to it, the other end of which rod S′ is pivoted to the rearward-projecting arm of the bar F, pivoted upon the upper end of the outer pivoted upright, E, so that the said upright and the inner upright, V, may be rocked simultaneously when the lever O′ is rocked, and be adjusted and held in their positions by the latch Q′.

The reel-shaft P has two arms, T′ T′, pivoted with their slotted middles upon the reel-shaft P, rocking in planes at right angles to each other.

Arms U′ U′ are pivoted to the reel-shaft P, near the inner end, corresponding to the pairs of arms T′ T′, and the ends of these arms U′ U′ and T′ T′ are connected by means of beaters V′, pivoted upon bolts at the outer ends of the arms T′ and U′, so that when the arms at one end are tilted the corresponding arms at the outer end will be tilted. These beaters are formed with notches or recesses W′ in their outer edges, and rods X′ are secured longitudinally upon the outer edges of the beaters V′ and have teeth Y′, pivoted by means of small sleeves Z′ upon the rods X′, the said sleeves Z′ rocking in the recesses W′ in the edges of the beaters V′.

The inner portions of the arms U′ are provided with inwardly-projecting rollers A″, which bear against the outer face of a disk, B″, which is provided with two diametrically-opposite pintles, C″ C″, with which it is pivoted to rock upon two perforated horizontal lips, D″, the pintles being vertical, and the rear edge of this disk is provided with a rearwardly-projecting arm, E″, to which is pivoted one end of a connecting-rod, F″, the inner end of which is pivoted to a rearwardly-projecting arm, G″, upon the upright E′ having the two slots.

It will now be seen that as the lever is tilted to one side or the other the uprights and the shaft will be tilted to one side or the other, and the disk being moved with the reel-shaft will be tilted on account of its having the arm connected to the arm upon the longitudinally-rocking upright V, so that the disk in being rocked will be brought to stand at different angles to the longitudinal line, or line of travel of the reaper.

The inner arms of the reel having the rollers bearing against the face of the rocking disk will thus in revolving be tilted by the same, the arms standing in planes parallel to the line of travel when in the uppermost and lowermost positions of their revolution, while they will stand in planes at angles to the line of travel at all other points of their revolutions, the angles depending upon the tilt of the disk, and consequently of the pivoted uprights and of the lever, and the blades or teeth upon the beaters will grasp between the stalks of leaning grain and draw them straight to the cutting apparatus as the beaters are moved parallel to the reel-shaft by the arms assuming their lower vertical positions.

It will be seen that the reel may be moved forward or back by adjusting the block sliding upon the forward arm, H, of the bar F rocking upon the outer upright, E, and by sliding the inner upright, V, upon the longitudinal rod G′ on the inner end sill, C, the pivoted upright E′ rocking forward or back upon its pivotal bolt H′, and the reel-shaft P, with its sprocket-wheel, sliding up or down in the slots of the said upright E′.

The reel may be raised or lowered by adjusting the pivoted bar F upon the outer upright, E, to tilt downward or up with its rear arm, which may be secured in the adjusted position by adjusting the pin in the series of holes in the upwardly-inclined pivoted arm I, the inner end of the reel-shaft P being raised or lowered by adjusting the frame T within the slot U in the upright V, and secured by means of its pins X being adjusted in the series of holes Y in the face of the inner upright, V. The reel may in this manner be adjusted to any suitable position for reeling long or short grain, and by adjusting the swiveled or rocking disk the angle of the reel-arms and the lateral sweep of the said arms and of the beaters, with their teeth, may be adjusting according to the direction in which the grain is leaning, the machine being thus enabled to cut grain thrown down and tangled by rain or storm.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a harvester-reel, the combination of radiating arms pivoted to the reel-shaft, beaters pivoted to the ends of said arms, and a disk pivoted to rock in a horizontal plane and to be adjusted at different angles, and having the shaft passing through it and having one set of pivoted reel-arms bearing against its face, as and for the purpose shown and set forth.

2. In a harvester-reel, the combination of radiating arms pivoted upon the reel-shaft and having rollers upon the sides of the arms of one end of the reel, beaters pivoted to the ends of the arms at each end of the reel, and a disk pivoted to rock in a horizontal plane and having means for adjusting it, and having the rollers bearing against its face, as and for the purpose shown and set forth.

3. In a harvester-reel, the combination of radiating arms pivoted upon the reel-shaft in sets, beaters pivoted to said arms and having teeth pivoted upon their outer edges, and a disk having means for rocking and adjusting it

in a horizontal plane, and having its face bearing against one set of the arms, as and for the purpose shown and set forth.

4. In a harvester-reel, the combination of a reel-shaft, a set of arms pivoted by their slotted middles to rock upon one end of the reel-shaft, radiating arms pivoted at their inner ends upon the other end of said shaft, beaters pivoted to the outer ends of the arms and having notches in their outer edges, rods secured upon the outer edges, teeth having sleeves pivoted upon the rods in the notches, and a disk having means for rocking and adjusting it in a horizontal plane, and having its face bearing against the rollers upon the arms, as and for the purpose shown and set forth.

5. In a harvester-reel, the combination of an outer upright pivoted at its lower end to rock transversely of the line of draft, and having a forwardly-projecting arm with a trunnioned bearing, an inner upright pivoted to rock transversely of the line of draft and having a trunnioned bearing, a reel-post having two longitudinal transverse slots crossing each other at right angles and pivoted to rock forward and back, a shaft journaled in the trunnioned bearings and having a square end sliding in a central perforation of a pulley moving vertically in one of the slots in the upright, radiating arms pivoted to the shaft and having beaters pivoted to their outer ends, a disk pivoted by vertical pintles upon the outer side of the inner rocking upright and having a rearward-projecting arm, E″, and having its outer face bearing against the inner set of arms, and a connecting-rod pivoted to this arm and to a rearwardly-projecting arm upon the slotted upright, as and for the purpose shown and set forth.

6. In a harvester-reel, the combination of an outer upright pivoted at its lower end to rock transversely to the line of draft, a hand-lever having a spring-latch and a segmental rack and rocking in a transverse plane to the line of draft, having a connecting-rod to the outer upright, a trunnion sleeve-bearing supported by the forward end of an arm upon the said upright, an inner upright rocking transversely to the line of draft, arms pivoted to the reel-shaft and having their ends connected by pivoted cross-bars, a disk pivoted by vertical pintles upon the outer face of the inner upright and having a reawardly-projecting arm, and a connecting-rod pivoted to the said arm and to a rigid arm, as and for the purpose shown and set forth.

7. In a harvester-reel, the combination of an outer upright pivoted at its lower end, a bar pivoted to rock upon the upper end of the upright and having forwardly and rearwardly projecting arms, an arm having a series of perforations and pivoted to project obliquely upward upon the upright, having a pin entering its perforations and a perforation in the rear arm of the rocking bar, a block sliding adjustably upon the forward arm of the bar and having a trunnioned bearing, an inner upright rocking transversely to the line of draft, having a vertical slot and a series of perforations, a frame sliding in the slot and having a trunnion-bearing and cross-bars upon its inner face, a pin fitting in the perforations of the upright and bearing under one of the cross-bars, and a reel-shaft journaled in the trunnion-bearings, as and for the purpose shown and set forth.

8. In a harvester-reel, the combination of an outer upright pivoted to rock transversely of the line of draft and having a bar upon its upper end, a block sliding adjustably upon the forward end of the said bar and having a bearing, an inner upright pivoted by and sliding upon a rod at its lower end upon a bar parallel with the line of draft and having a bearing, a reel-shaft journaled in the bearing, and an upright pivoted to rock in a plane parallel with the line of draft and having a slot for the end of the reel-shaft, as and for the purpose shown and set forth.

9. In a harvester-reel, the combination of a reel-shaft having means for raising and lowering it and for sliding it laterally, a drive-pulley, an upright pivoted to rock fore and aft and having longitudinal slots crossing each other at right angles, and having a series of perforations through its sides at the lower ends of the slots, a pulley sliding vertically in the slot which extends from the front to the rear face and having the shaft sliding through it, a pulley journaled in the upper end of the said slot, a pulley journaled upon a removable pin in the perforations, and a drive-chain passing over the pulleys, as and for the purpose shown and set forth.

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

JOSEPH EAGLESTON.

Witnesses:
ISAAC H. SMITH,
DANIEL PURSEL.