

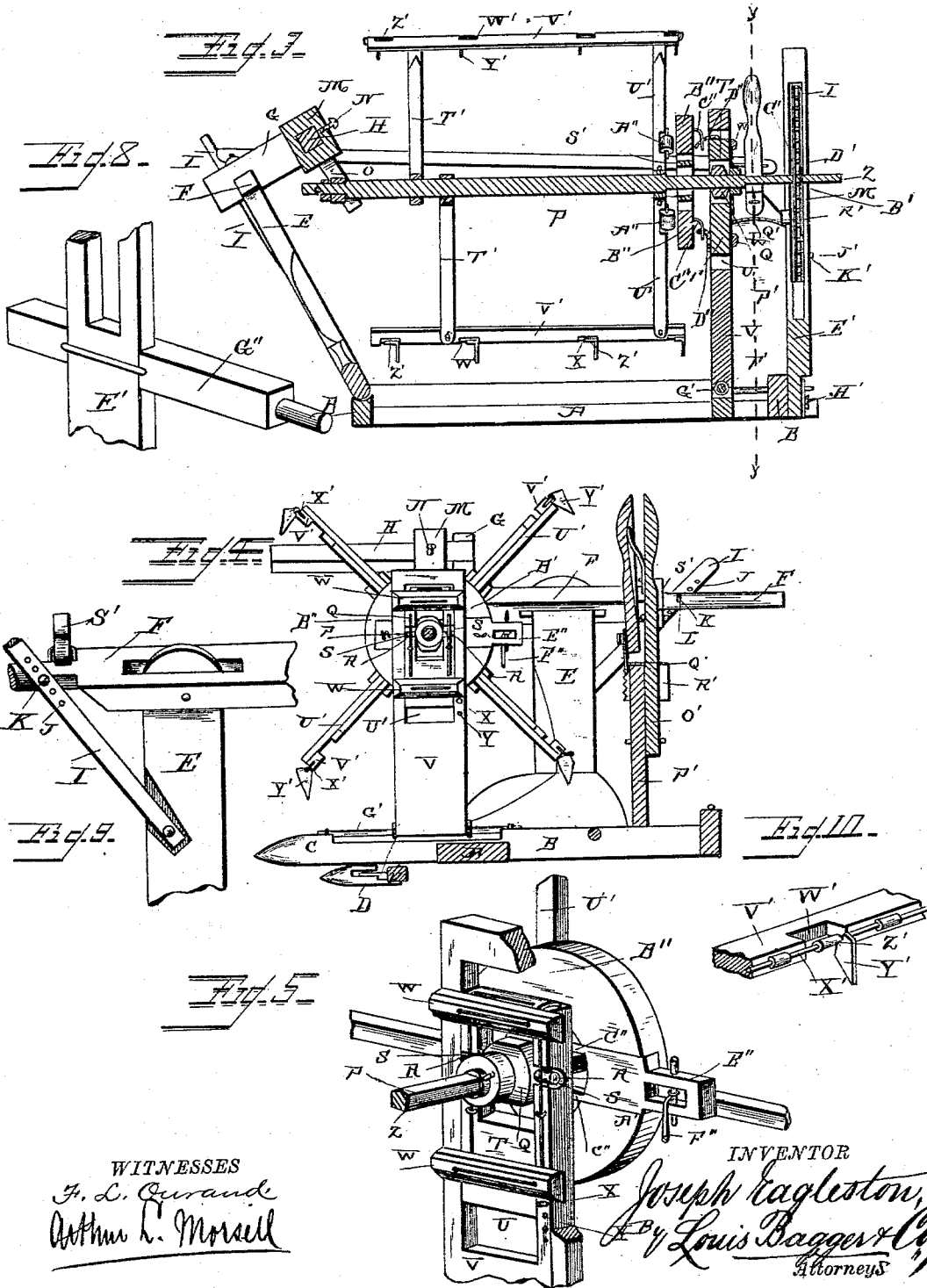
(No Model.)

2 Sheets—Sheet 2.

J. EAGLESTON.
HARVESTER REEL.

No. 359,855.

Patented Mar. 22, 1887.



WITNESSES
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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 *xx*, Fig. 2. Fig. 4 is a vertical sectional view on line *yy*, 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',

journalled 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 other 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
5 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
10 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
15 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
20 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
25 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
30 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
35 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
40 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
45 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
50 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 rearwardly-projecting
arm, and a connecting-rod pivoted to the said
55 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
60 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
65 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
70 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
75 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
80 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,
85 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
90 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
95 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
100 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
105 my own I have hereunto affixed my signature
in presence of two witnesses.

JOSEPH EAGLESTON.

Witnesses:

ISAAC H. SMITH,
DANIEL PURSEL.