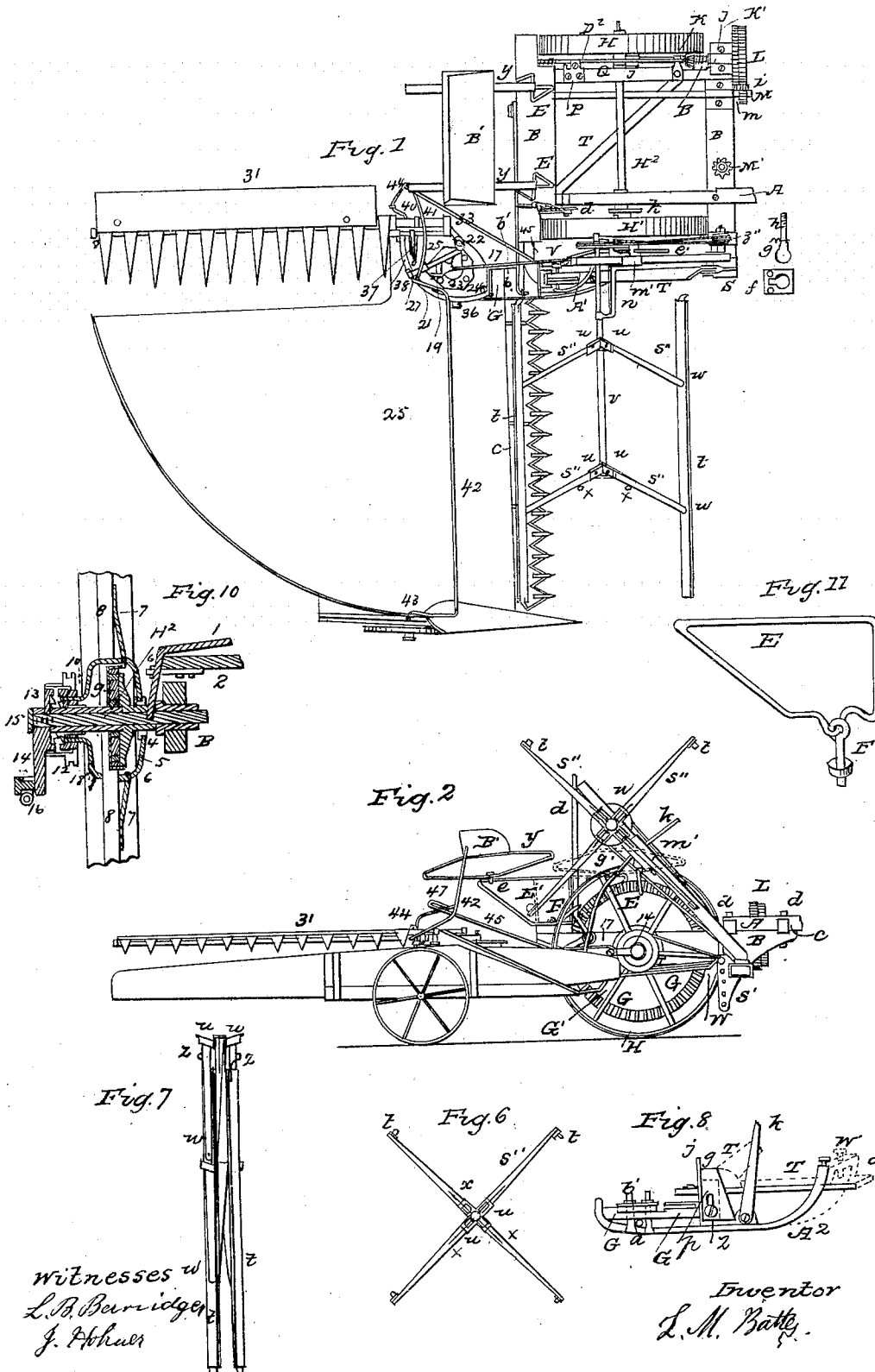


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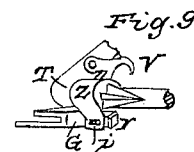
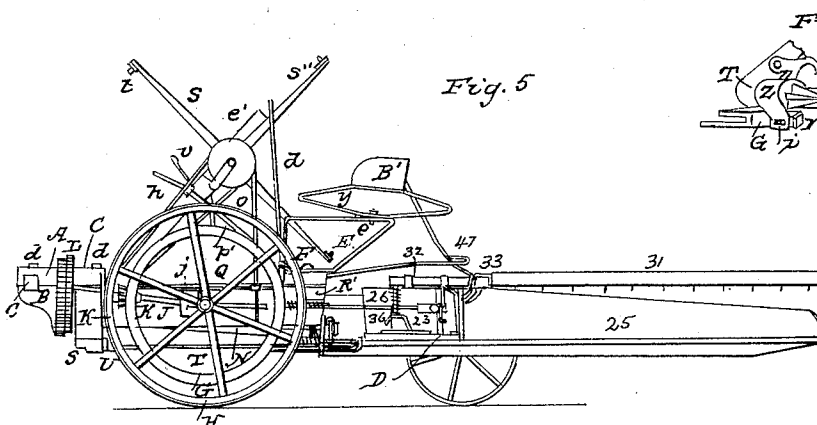
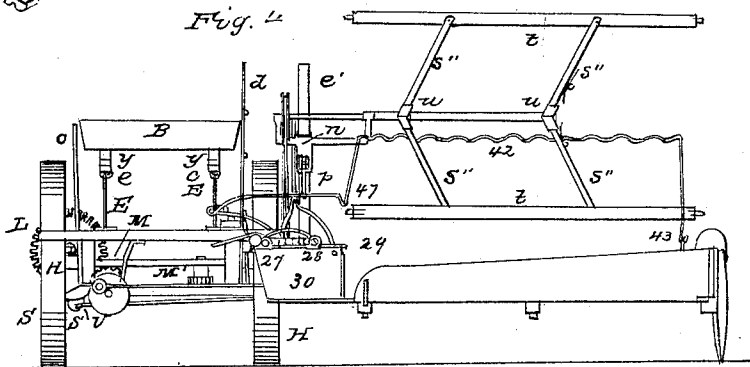
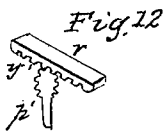
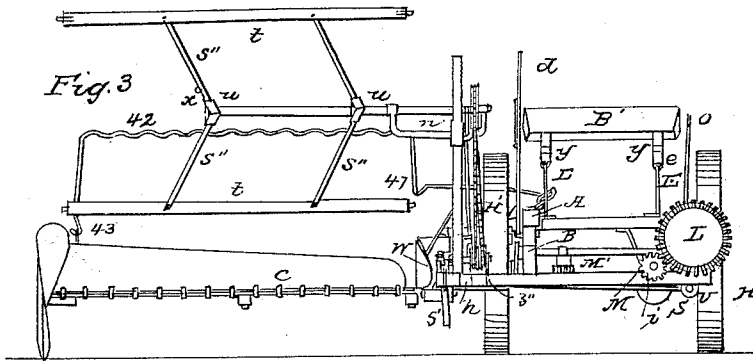


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WITNESSES
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UNITED STATES PATENT OFFICE.

L. M. BATTY, OF CANTON, OHIO.

IMPROVEMENT IN HARVESTING-MACHINES.

Specification forming part of Letters Patent No. **49,963**, dated September 19, 1865.

To all whom it may concern:

Be it known that I, L. M. BATTY, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the harvester. Fig. 2 is a side view. Fig. 3 is a view of the front end. Fig. 4 is a view of the rear end. Fig. 5 is a view of the side opposite from Fig. 2. Figs. 6, 7, 8, 9, 10, and 11 are views of detached parts, that will be referred to in the description.

Like letters of reference indicate the same parts in the different views.

B is a wooden frame, to one side of the front end of which is attached the tongue A, by means of two lock-plates, C, which have flanges extending up and down on each side, as seen at C in Figs. 2 and 5. The upper flanges lock upon the tongue and the under ones lock upon the side pieces of the frame B, the whole being secured together by bolts d.

B' is the seat, supported on springs y, that are connected to seat-irons E. (Represented enlarged in Fig. 11.) These irons are formed of a continuous rod, with the under part bent in a zigzag form to prevent them from tipping over sidewise, and are secured to the rear end of the frame B by a set-bolt, nut, and washer, F. The seat can be adjusted backward or forward by means of eyes e under the springs, through which the upper part of the seat-irons passes, connecting the springs to them; and when it is desired to place the seat and springs farther forward than can be done in this way, the seat-irons are turned around, without removing the seat, to the position indicated by the dotted lines E', and the seat can be placed forward to the position indicated by the dotted lines y'.

The advantages of the seat-irons are, that they have a firm bearing on the frame B of the machine, in consequence of which the floor may be made light and cheap, and the seat can so readily be adjusted to any desired position.

On the inside of the left driving-wheel H there is a cog-wheel, G, Fig. 2, that communicates motion to the sickle by means of a bevel-

pinion, K, and clutch K' (seen in Fig. 1) on the shaft J, which runs in boxes z and z', bolted or otherwise secured to the frame B. On the front end of this shaft is a double cog-wheel, L, which works in the pinions M or M', both of which are fitted to a clutch, m, on the crank-shaft N, and either can readily be put on when it is desired to change the speed by removing a split-pin, i, from the end of the shaft, the one not in use being placed on a pin on the frame B, as represented in Figs. 1 and 3.

The beveled pinion K on the shaft J is pressed upon the clutch K' by a coiled spring, R, on the shaft. (Seen in Fig. 1.) The coiled spring R, being stiffer than the clutch K', if not interfered with will press the shifting-rod Q against the pinion K sufficiently to disconnect it with the clutch, but not enough to disconnect it with the cogs G of the wheel H. The hand-lever O (seen in Figs. 1 and 5, Plates 1 and 2) is pressed against a notched plate, P, by a spring, R².

The machine may be thrown in gear by placing the hand-lever O in its back notch in the plate P, by which the spring R² is forced back and the pinion K permitted to connect with the clutch K'.

The machine can be thrown out of gear by a slight lateral movement of the hand-lever, which will release it from the notch in the plate P, and the pinion K may be disconnected with the cogs G by placing the hand-lever in the forward notch of the plate.

The drag-bar T, Figs. 1, 5, 8, and 9, Plates 1 and 2, consists of a continuous bar of iron, with a filling, r, of cast-iron, riveted on its upper and under side to form a bearing within the ring Z, Fig. 9, Plate 1. It is attached to the hanging iron S, at any desired point under the left side of the machine, by a swivel, U, Fig. 5, Plate 2, and at the front right corner of the machine it is connected with the hanging iron S', Fig. 2, Plate 1, by a movable pin, W. By placing this pin in different holes the finger-beam c may be raised by the hand-lever d to any desired point of elevation without changing its position in relation to the pitman.

The finger-beam connection, Figs. 1 and 8, Plate 1, (Fig. 8 being an enlarged view,) consists of a bed-plate or runner, A', turned up at each end, with an upright slot in the back end to receive the rear end of the shoe G', and

has an upright standard, *g*, near the center, with a longitudinal slot, *g'*, to receive the drag-bar *T* and the front end of the shoe *G'*. The drag-bar is passed through this slot, and a hole, *d'*, in the front end of the bed-plate or runner *A'*, there being a set-screw, *W'*, for tightening it.

The ring *Z*, Fig. 9, Plate 2, with the filling *r*, is contained in the slot *g'*, Fig. 8, (Fig. 9 being an enlarged view,) and the bolt *Z'*, passing through the slot *p*, the slot-holes *d'* in the ring *Z*, and the front end of the shoe *G*, secures the whole at any desired point of elevation or of inclination to the bed-plate or runner *A'*.

The bed-roll *a*, Fig. 8, of which there may be one or more, can be of any desired size, and the holes through the shoe *G*, receiving the bolts *b'*, being enlarged at the bottom, admit of a rocking movement of the shoe.

The hook or button *V*, Figs. 1 and 9, hooks upon the flange and prevents the drag-bar from slipping back. This arrangement admits of setting the cutter-guards to any desired degree of inclination and of folding up the finger-beam laterally, and also of sliding the whole cutting apparatus forward on the drag-bar *T*, when folded up, so as not to throw the machine out of balance.

The reel-post *e'*, Fig. 1, Plate 1, is held by a plate, *f*, upon a ball, *g''*, forming a rolling-joint on the end of the bolt *h*, on which the guide-pulleys *j* run, and by which they are secured to the pulley-holder *z*, which is bolted to the frame *B*. The reel-post is supported at the upper end by a standard, *k*, Figs. 1, 2, and 8, Plate 1, which is connected to the bed-plate or runner *A'* by a flexible joint. This standard passes up through a hole in a flange, *m'*, on the reel-carriage *n*, and is fastened at any desired point by the wedge *o*. (Seen in Fig. 5, Plate 2.)

The reel-arms *S'*, Fig. 1, are fastened to floats *t*, and are secured in the arm-holders *u*, on the tubular reel-shaft *v*, by rivets *w*, and they are kept erect, as in Fig. 6, Plate 1, by springs *x*, which, being fastened on the arms, bear on the outside of the arm-holders *u*. The arms are kept folded, as seen in Fig. 7, by the springs *x* bearing on the inside of the arm-holder *u*, the whole forming a folding reel, which can be easily thus folded for transportation.

The reel-carriage *n*, Fig. 4, Plate 2, is secured at any point on the reel-post *e'* by means of a segment-lever, *p'*, (represented enlarged in Fig. 12, Plate 2,) with a wedge-shaped rack, *y''*, on the bar-plate *r'*, which, being inside of the post-hole in the reel-carriage, is tightened up against the reel-post or loosened by working the segment-lever *p'*.

The rake *31*, Figs. 1 and 2, Plate 1, and Fig. 5, Plate 2, is worked by a foot-lever, *1*, Fig. 10, Plate 1, Fig. 10 being an enlarged detached section. The foot-lever is hung on a pin, *2*, bolted to the floor *3*, and bears against a ring, *4*, that slides on the hub *5* and is connected

with the bent rods *6*. These rods are pressed back by springs *7*, that are riveted to the spokes *8*, and the rods pass around the ratchet-and-pawl drum *9* and enter the lugs *10* on the sliding ratchet *11*. The lugs slide through corresponding holes in the reel-chain pulley *12*. By pressing the foot on the lever *1* the sliding ratchet *11* connects with the ratchet-teeth *13* cast upon the crank *14*, which, being loose on the driving-shaft *H*², is kept to its place by a screw, *15*.

To the box *16* is connected a pitman, *17*, (seen in Figs. 1 and 2,) which is screwed into a head-piece, *18*, for the purpose of adjusting its length. The head-piece is connected by a pin, *19*, to a box, *20*, which works on a post, *21*. (See Fig. 5, Plate 2.) This pin is attached to the under side of the rake-carriage *22*, which swings on the standard *23*, bolted to the bed-plate *24* and the platform *25*. The coiled spring *26* on the standard *23*, Fig. 5, Plate 2, retains the rake-carriage *22* in its proper position, but will yield and allow the outer end of the rake *31* to be raised up a little when there is too large a gavel on the platform. The boxes *27* and *28*, Fig. 4, Plate 2, are placed on the outer ends of the rake-carriage *22* and slide on the flange *29* on the top of the elevated track *30*. The boxes *33* and *34*, Fig. 1, are driven onto the rake-head *31* and turn on the rake-carriage *22*.

When, by bearing the foot on the lever *1*, Fig. 10, the rake is passed forward to the front part of the platform, a curved tripping-arm, *35*, Fig. 5, runs under a tripping-pin, *36*, Fig. 1, by which the rake is turned down into the grain, with its teeth in a perpendicular position, and it is held in that position by an arm, *37*, (seen in Fig. 1,) slipping by and catching on a spring-catch, *38*. When the rake moves back with a gavel an arm, *39*, Fig. 5, Plate 2, slides up onto and drops off the inclined guide *40*, and at the same time the arm *37* is relieved from its hold on the spring-catch *38*, Fig. 1, by slipping behind the catch *40*, (seen in Fig. 5,) and the rake is immediately turned up in a horizontal position, as represented, by a coiled spring, *41*.

The drop-wire *42* is hung by flexible joints *43* and *44* and operated by the connecting-rod *45*, which is attached to the pitman at *46* and to the drop-wire by a slot, *47*.

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. The seat-irons *E*, with the set-bolts *F*, when used as described, for the purposes set forth.

2. The arrangement of the bevel-cogs *G*, in combination with the driving-wheels *H* and *H'*, shafts *H*² and *J*, the pinion *K* and clutch *K'*, the double spur-wheel *L*, pinion *M* or *M'*, and the crank-shaft *N*, all connected and operated substantially as set forth.

3. The hand-lever *O*, with the spring, together with the shifting-rod *Q*, the coiled springs *R* and *R'*, in combination with the pin-

ion K and clutch K', when operating conjointly, as described.

4. The arrangement of drag-bar T, with the filling *r*, the hook V, the pin W, the hanging irons S and S', the swivel U, the runner A', the standard *g*, with its slots *g'* and *p'* and flange *j*, the set-screw W' and slot *d'*, the ring Z, the bolt Z', the shoe G', the bed-roll *a*, the bolts *b'*, in combination with the finger-beam *c* and the lever *d*, as set forth, when operating as described.

5. Supporting the reel-post *e'* and carriage *n* by the standard *k*, fastened by a wedge, *v*, as described.

6. The segment-lever *p'*, the rack *y''*, and the plate *r*, in combination with the reel-carriage *n* and reel-post *e'*, in the manner and for the purpose set forth.

7. The arrangement of the folding arms of the reel, in connection with the tubular shaft, substantially as described.

8. The springs *x*, in combination with the folding arms S' and arm-holders *u*, in the manner and for the purpose set forth.

L. M. BATTY.

Witnesses:

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J. HOLMES.