

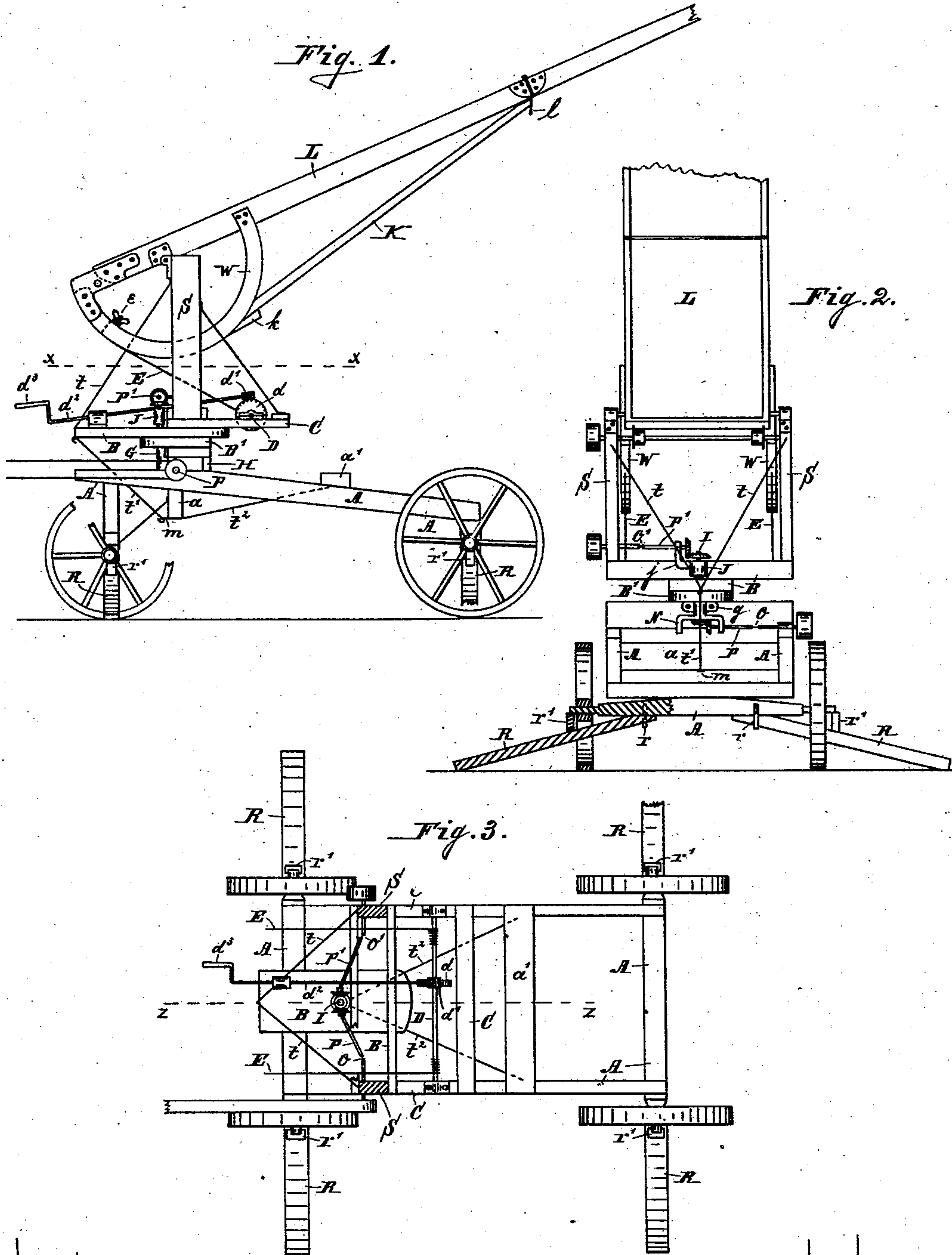
(No Model.)

2 Sheets—Sheet 1.

C. E. MERRIFIELD.
STRAW STACKING MACHINE.

No. 292,500.

Patented Jan. 29, 1884.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES E. MERRIFIELD, OF INDIANAPOLIS, INDIANA.

STRAW-STACKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 292,500, dated January 29, 1884.

Application filed October 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MERRIFIELD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Straw-Stacking Machines, of which the following is a specification:

My invention relates to improvements in straw-stacking machines in which the straw is received upon an endless-apron carrier supported and operated on a turn-table or bolster mounted on a truck.

In the accompanying drawings, Figure 1 is a side view of my improved straw-stacker; Fig. 2, a rear view of the same, showing one of the braces to rear axle in section; Fig. 3, a horizontal section on line *x x* on Fig. 1; Fig. 4, a longitudinal vertical section, on a larger scale, through the machine on line *z z* on Fig. 3; Fig. 5, a vertical cross-section on line *y y* on Fig. 4.

The same letters refer to the same or corresponding parts throughout the several views.

The bolster B, to which the supports of the carrier-frame are secured, is formed of the bolster proper and a tongue-extension.

The standards S S, to which the carrier-frame L is pivoted, are tied to the front of the bolster-tongue B by the truss-rods *t t*. Said rods *t t* are bolted to standards S S, near the top of the same, and run to a point right in front of the pivot-point of the bolster B, where they are secured to said bolster and connected with the single truss-rod *t'*. Said rod *t'* runs to and engages into an eye, *m*, formed by the rods *t'' t''*, immediately under the pivot-point of the bolster B. The rods *t'' t''*, being securely bolted to a cross-beam, *a*, and run from there to the cross-beam *a'*, secured to the rear part of the carrier-truck A, or to the sides of said truck, form, in connection with the rods *t t* and the rod *t'*, a strong truss, and prevent the weight of the carrier L breaking or twisting the king-bolt on which the bolster B operates, while the eye *m*, being right under the center of said king-bolt, allows the upper parts of the truss to swing around with the carrier.

To the bolster B are rigidly secured the standards S S, also the frame-work C, which supports the shaft D, on which the ropes E E,

that raise and lower the hoisting-wheels W W and the stacker-frame L, are wound and unwound by means of a worm-gear consisting of the spirally-toothed wheel *d*, secured to said shaft D, and operated by the endless screw *d'* on the end of the shaft *d''*. Said shaft *d''* is operated by the crank *d'''* at the front end of the bolster B. By turning the crank *d'''* the stacker L is raised and lowered to any position desired, and is held there by said worm-gear without the help of clicks or other fastenings.

The bolster-plate B', on which the bolster B rests, is supported by the cross-beams H H. To the front one of said beams is secured the boxing G by shoulders *g g*.

To the lower part of the boxing G are either bolted or cast the brackets N N, while around the top of the boxing G the sleeve J operates, which is provided with a bracket, *j*.

The spindle I operates in the boxing G, which boxing at the same time forms a king-bolt for the bolster B.

The bevel-gearing on the shafts P and P' are held in their proper position with the gear-wheels on the spindle I by the bracket N and the sleeve-bracket J *j*, while the gimbal-joints O and O' in said shafts P and P' prevent the gearing from being thrown out of its proper position by the unavoidable rocking of the bolster B. These gimbal-joints admit of such rocking and allow of the shafting being bent.

To the hoisting-wheels W W, which are bolted to the sides of the stacker-frame L, are secured the ropes E E, through the set-screws *e e*, said set-screws allowing the ropes being adjusted, whenever needed, without stopping the machine and losing valuable time.

To strengthen the stacker-frame L, the braces K K are inserted into the sockets *k k*, secured to the wheels W W and into the sockets *l l* on under side of the stacker-frame L, near the folding-point of said frame L.

Bolted to each side of the axles of the truck A are the clevises or sockets *r r*, to receive one end of the braces R R, when the machine is set up for operation. Said braces R R are shoved through the wheels of the truck A up into the clevises or sockets *r r*, and by means of the blocks *r' r'*, driven between the braces R R and the axles of the truck A, the truck is rigidly braced, and any tipping over of the

same when the stacker swings around prevented.

A belt from the engine or thrashing-machine drives the pulley on the outer end of the shaft P. The bevel-gear on the inner end of said shaft operates the spindle I in the boxing G. The spindle I operates the shaft P' by bevel-gearing, and the pulley on the outer end of the shaft P' operates the stacker-shaft. The following are the new points in this mechanism: the brackets N N at the lower end of the boxing G hold the lower bevel-gear together, while the sleeve J, with the bracket j on the upper end of the boxing G, holds the upper bevel-gear in place and allows the swinging around of said gear in connection with the bolster B, and admits of the rocking of said bolster B without separating the gear.

By the use of the gimbal-joints O and O' in the horizontal shafting P and P', the power can be received in the center of the standards that support the stacker-frame, and carried forward to the boxing G, which is placed in front of said standards S S; and then above the bolster B the power can be carried back again to the center of the standards. This is an advantage over the usual method, where the pivot-point of the bolster and the gearing is placed in the center of the main supports of the carrier, whereby the carrier cannot be swung around at right angles or moved toward the machine without interfering with the gearing and bracing, while my method of placing the pivot-point of the bolster and the gearing forward of the center of the main supports, and of using gimbal-joints in the shafting, enables me to swing the stacker around at a greater angle and to build a larger stack.

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

1. The combination, in a straw-stacking machine, of the carrier-supports S S, the bolster B, having a tongue-extension, the iron brace-rods *t t*, bolted to the carrier-supports S S near the top of the same and to the bolster-extension at a point right in front of the pivot-point of the bolster, and the iron rods *t' t'* and *t''*, the connection of said rods being made by an eye, *m*, formed by the rods *t' t'* right under the pivot-point of the bolster B, all as described, and for the purpose specified.

2. In a straw-stacking machine, the combination of the standards S S, the carrier-frame L, pivoted to the standards S S, the bolster or turn-table B, the bolster-plate B', the boxing G, located in front of the standards S S, and forming a pivot for the bolster B, the cross-beams H H, the carrier-truck A, the cross-beams *a* and *a'*, and the iron brace-rods *t t*, *t'*, and *t''*, all constructed and adapted to operate substantially in the manner and for the purpose specified.

3. In a straw-stacking machine, the combination of the standards S S, the carrier-frame L, pivoted to the standards S S, the bolster B, the frame-work C, the shaft D, mounted on the

frame-work C, the spirally-toothed wheel *d*, firmly secured to the shaft D, the shaft *d'*, the endless screw *d'*, secured to the end of the shaft *d'* and operating the wheel *d*, the crank *d''* at the end of the shaft *d'*, the ropes E E, and the hoisting-wheels W W, all as described, and for the purpose specified.

4. In a straw-stacking machine, the combination of the standards S S, the carrier-frame L, pivoted to the standards S S, the bolster B, the frame-work C, the shaft D, the wheel *d*, the endless screw *d'*, the shaft *d'*, the crank *d''*, the ropes E E, wound and unwound on the shaft D by the operation of the crank *d''*, the hoisting-wheels W W, and the set-screws *e e*, securing the ropes E E to the hoisting-wheels W W, substantially as described, and for the purpose specified.

5. In a straw-stacking machine, the combination of the standards S S, the carrier-frame L, pivoted to the standards S S, the hoisting-wheels W W, secured to the sides of the carrier-frame L, the braces K K, the sockets *k k*, secured to the wheels W W, and the sockets *l l*, secured to the carrier-frame L, substantially as described, and for the purpose specified.

6. In a straw-stacking machine, the combination of the horizontal shaft P, the gimbal-joint O in said shaft P, the boxing G, the spindle I, operating in said boxing G, the horizontal shaft P', the gimbal-joint O' in said shaft P', and the bevel-gear at each end of the spindle I, substantially as described, and for the purpose specified.

7. In a straw-stacking machine, the combination of the carrier-truck A, the cross-beams H H, the bolster-plate B', the bolster B, the carrier-supports S S, the boxing G, forming a pivot for the bolster B in front of the carrier-supports S S, and the shoulders *g g*, securing the boxing to the front one of the beams H H, substantially as described, and for the purpose specified.

8. In a straw-stacking machine, the combination of the carrier-truck A, the cross-beams H H, the bolster-plate B', the bolster B, the carrier-supports S S, the boxing G in front of the carrier-supports S S, the shoulders *g g*, securing the boxing G to the front one of the beams H H, the brackets N N at the lower end of the boxing G, the sleeve J, and the bracket j, operating around the upper end of the boxing G, the gear-shafting P, P', and I, and the gimbal-joints O and O' in said shafting P and P', all constructed and arranged to operate substantially as described, and for the purpose specified.

9. In a straw-stacking machine, the combination of the carrier-frame L, the standards S S, the bolster B, the bolster-plate B', the gear-shafting P, I, and P', the boxing G, forming a pivot for the bolster B, the brackets N N, the sleeve J, the bracket j, the shoulders *g g*, the cross-beams H H, the carrier-truck A, the cross-timbers *a* and *a'*, the iron braces *t t*

$t' t^2 t^3$, and the eye m under the pivot-point of the bolster B, all arranged and adapted to operate substantially as described, and for the purpose specified.

- 5 10. In a straw-stacking machine, the combination of the truck-axle A, the clevises or sockets $r r$, secured to the axle A, the braces R R, shoved through the wheels of the truck up into said clevises or sockets $r r$, and the blocks
10 $r' r'$, driven between the braces R R and the

truck-axle, substantially as described, and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES E. MERRIFIELD.

Witnesses:

CHAS. MAAS,
G. KOEHLER.