

Hay-Carrier.

No. 219,966.

Patented Sept. 23, 1879.

FIG. 1.

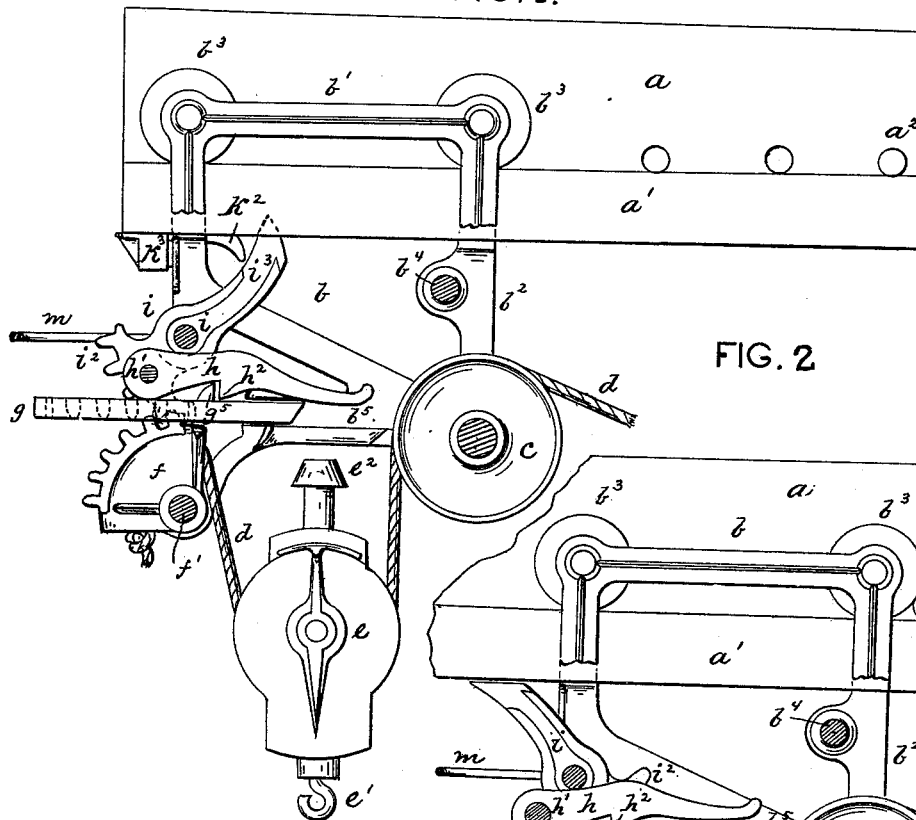


FIG. 2

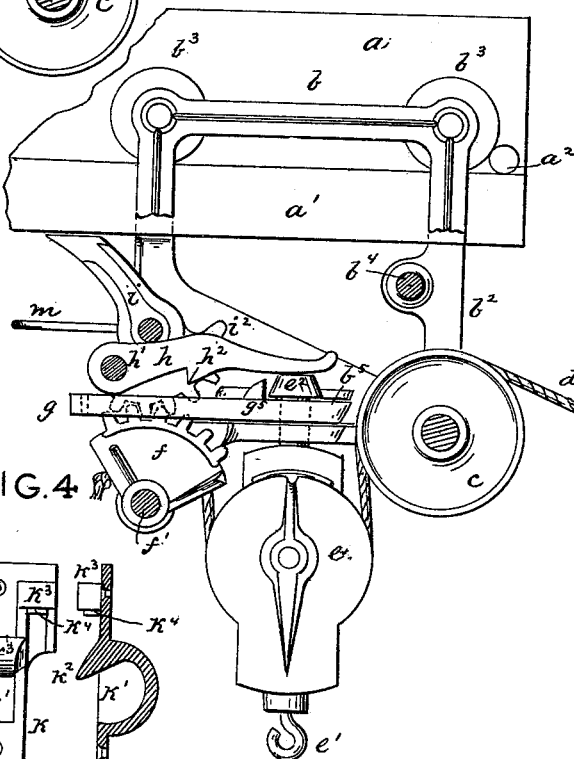


FIG. 3.

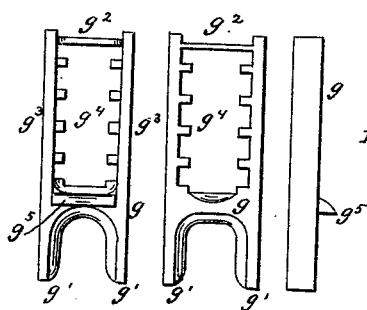
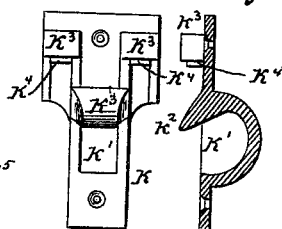


FIG. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HAY-CARRIERS.

Specification forming part of Letters Patent No. **219,966**, dated September 23, 1879; application filed August 16, 1879.

To all whom it may concern:

Be it known that I, WM. G. MCCOMAS, of Colerain, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Hay-Carriers; 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, and to letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish an improved carrier for elevating hay.

It consists in the improved manner by which the head of the sheave is caught and held by a sliding bar of peculiar form, and in other mechanism, all of which will be hereinafter fully explained.

In the drawings, Figure 1 is a side elevation, with a portion of the frame removed, of the carrier and track, the carrier being at the outer end of the track in position for the fork and its load to be elevated. Fig. 2 is a side elevation, with the carrier drawn to the inner end of the track, where the hay is discharged. Fig. 3 shows views of the bifurcated sliding bar, and Fig. 4 shows the stop which is affixed on the under side of the outer end of the track.

a is the supporting-bar, which is provided with the tracks *a'*, only one of which is shown, the other being on the opposite side of the bar *a*, all of which are of ordinary construction and arrangement. At the inner end of the track I place a pin, *a²*, which limits the inward movement of the carrier. The pin *a²* may be inserted so that it can be removed and inserted in other holes in the bar *a*, so that the movement of the carriage will be stopped at any desired point.

b is the frame which supports the operating mechanism of my invention. It is composed of the two lateral frames *b¹ b²*, the upper ends of which extend upward on opposite sides of the track-bar *a*, and have affixed to them the friction-rollers *b³ b³*, which move on the tracks *a'*. Instead of the rollers *b³*, projecting shoulders may be employed, which will slide on the tracks. The lateral frames *b¹ b²* are held together by the bolt *b⁴*, and by the several bolts

which serve as axes for the operating mechanism.

c is a friction-pulley affixed at the inner lower corner of the frame *b*, and over it is put the free end of the draft-rope *d*. The opposite end of the rope *d* is passed under the sheave in the sheave-case *e*, and through an opening in the segmental gear *f*, and is secured by a knot on its end, as shown. The sheave-case *e* is provided with the usual swiveled hook *e¹* in its lower end, while on its upper end is formed the flanged head *e²*.

The segment *f* rotates on its pin or axis *f'*, fixed in the frame *b*.

g is a bifurcated retaining-bar. The arms *g¹ g¹*, formed on the inner end of the bar *g*, slide under and hold the head *e²* of the sheave-frame *e* when the latter has been drawn up into the frame *b*, as shown in Fig. 2. The bar *g* has its outer end, *g²*, made like an open frame, as shown in Fig. 3, and has formed on the parallel sides *g³ g³* the inward-projecting cog-racks *g⁴*, and has on its upper surface a vertical projection, *g⁵*. This bar slides horizontally in guide channels or grooves *b⁵*, formed on the inner sides of the lateral frames *b¹ b²*. In the operation of the carrier the teeth on the segment *f* engage the teeth in the cog-racks *g⁴*, and move the bar *g* back and forth in its guide-channels.

h is a tripping-pawl, which is pivoted to the frame at *h¹*. Its pivoted end is slotted, so as to permit the lower end of the lever *i* to pass down through it to the segment *f*. It has a projecting lip or flange, *h²*, which catches over the lip or projection *g⁵* on the sliding bar *g*, and holds the latter in the position shown in Fig. 1, and locks the carrier in its place on the outer end of the track, over the hay on the wagon below. It is tripped or disengaged from the bar *g* by the head *e²* of the sheave *e* when the latter is drawn up by the rope *d*.

i is the lever, pivoted to the frame *b* immediately between its ends at *i¹*. On its lower end is formed a segment, *i²*, which meshes with the segment *f*, while its upper end, *i³*, extends to and is engaged by stop-plate *k*.

The stop-plate *k* is formed with a mortise, *k¹*, a lip, *k²*, and two recessed or hollow shoulders, *k³*. Within the recessed shoulders *k³*, I place elastic bumpers *k⁴*, which receive the

stroke of carriage *b* when run out to receive another quantity of hay.

m is a loop, to which a rope is attached for drawing the carriage out of the mow after the hay has been discharged from the fork.

The operation of the device is as follows: The several parts being in the position shown in Fig. 1, and over the wagon, the rope *d* connects with the horse-power. The fork, being loaded, is drawn up till the head *e*² of the sheave engages and lifts the end of the lever *h*, and disengages the shoulder or lip *h*² from the shoulder *g*⁵ on the sliding bar *g*. The draft on the rope *d* causes the segment *f* to turn, which moves the bar *g* so that arms *g*¹ pass under the head *e*², moves the carrier *b* inward on the track *a*, and turns the end of the lever *i* outward, the several parts named being now in the position shown in Fig. 2. The carrier, with the loaded fork, is now drawn into the mow and the hay is discharged, after which the carrier runs outward on the track, and when it reaches the stop *k* the point of the lever *i* is engaged by the lip *k*², and is turned back to the position shown in Fig. 1, and the bar *g* is drawn from under the head *e*², and the lever *h* engages the lip *g*⁵ and locks the carrier in its position, while the sheave *e*, with its attached fork, is lowered for another quantity of hay. The elastic bumpers *k*⁴ receive and relieve the jar or shock which would otherwise be given to the carrier, thus preventing the breaking of the frame *b*.

Suitable stops are provided on the sides of the segment *f* and on the frame *b*, by which the rotating movement of the said segment is limited within proper bounds.

When the loaded fork is raised and the lever *h* is unfastened from the bar *g*, the latter is carried under the sheave-head by the action of the segment *f* and rope *d*, while on the return movement the said bar is disengaged from the sheave-head by the lever *i* and its segment *i*² engaging with the segment *f*, which engages with the racks *g*⁴.

The locking of the bar *g* by the lever *h*, as shown in Fig. 1, also locks the segment *f* and lever *i* so they cannot turn.

When the carriage is running back on the

track the bar *g* is prevented from moving by the lever *i*, the upper end of which is inclined outward, and moves close to the under side of the bar *a*, as shown in Fig. 2, thus locking the segments and the sliding bar, so that the sheave *e* will be securely held.

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

1. In a hay-carrier, the bifurcated bar *g*, sliding horizontally in guides on the frame *b*, and operated so as to bring the arms *g*¹ *g*¹ under the head *e*² of the sheave *e*, substantially as set forth.

2. The combination, with the bifurcated bar *g*, sliding horizontally in guides on the frame *b*, and having the inward-projecting cogs *g*⁴ on its rear side bars, *g*³, of the segment-gear *f* and rope *d*, the said rope being received in the segment *f*, and all arranged to operate substantially as and for the purpose set forth.

3. The combination, with the bifurcated bar *g*, having racks *g*⁴, arranged as described, of the segment *f* and the lever *i*, having segment *i*² on its lever end, and is operated substantially as set forth, and for the purpose stated.

4. The combination, with the sliding bar *g*, having racks *g*⁴, arranged as described, and provided with the shoulder *g*⁵ on its upper side, and the lever *h*, having the shoulder or lip *h*², of the flanged head *e*² on the sheave-case *e*, segment *f*, and rope *d*, all arranged to operate substantially as and for the purposes set forth.

5. In a hay-carrier provided with a sliding carriage, *b*, and a pivoted lever, *i*, which turns forward and back, as described, the check-plate *k*, constructed with the recess *k*¹, lip *k*², recessed shoulders *k*³, and elastic bumpers *k*⁴, secured in the recessed shoulders *k*³, substantially as and for the purposes set forth.

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

WILLIAM G. McCOMAS.

Witnesses:

T. C. ROWLES,
W. T. GRAHAM.