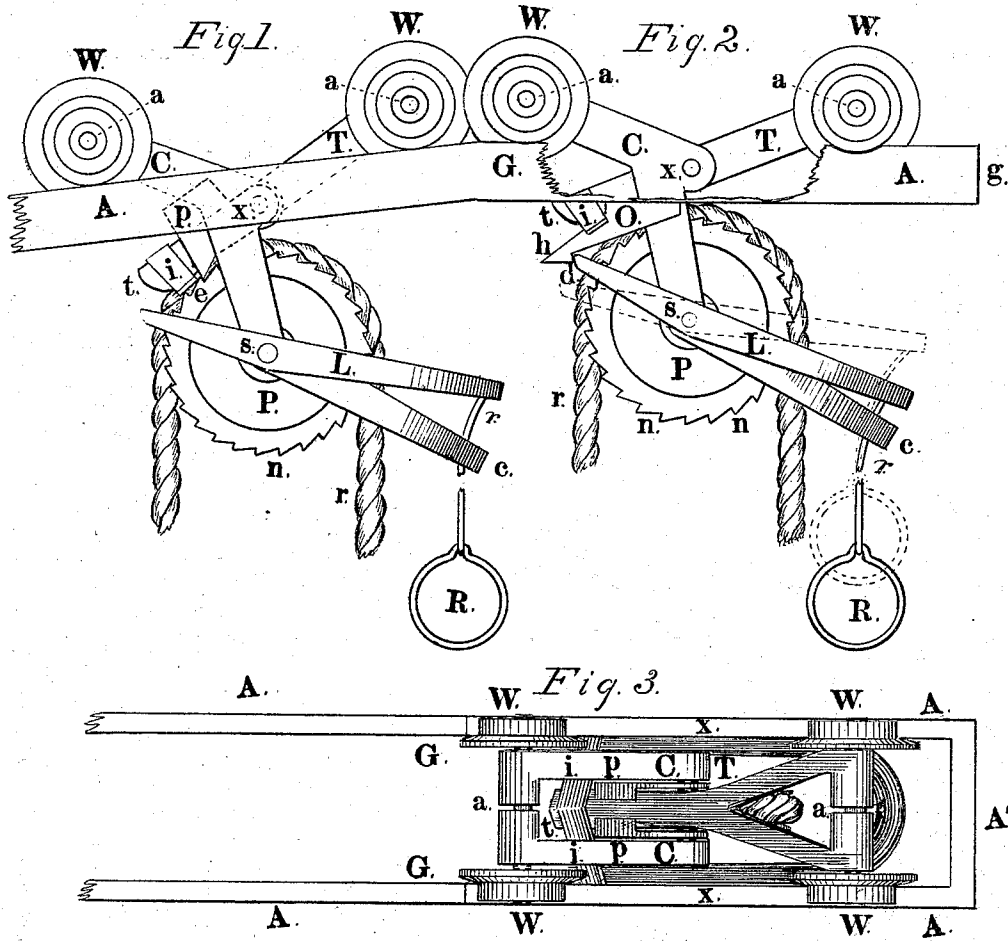


G. VAN SICKLE.
Hay-Elevators.

No. 148,009.

Patented Feb. 24, 1874.



Witnesses:

A. Parsons
J. W. Johnson

Inventor:

Garrett Van Sickle

UNITED STATES PATENT OFFICE.

GARRETT VAN SICKLE, OF SHORTSVILLE, NEW YORK.

IMPROVEMENT IN HAY-ELEVATORS.

Specification forming part of Letters Patent No. **148,009**, dated February 24, 1874; application filed January 16, 1874.

To all whom it may concern:

Be it known that I, GARRETT VAN SICKLE, of Shortsville, in the county of Ontario and State of New York, have invented a new and useful Improvement in Hay-Elevators; and I do hereby declare the following to be a full and accurate description of the same, sufficient to enable those skilled in the art to which it appertains to construct and make use of the same, reference being had to the drawings accompanying this specification, and to the figures and letters of reference marked thereon, in which like letters refer to like parts throughout the same.

Figure 1 is a central vertical view of my improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a plan of the car and the track.

My improvement relates to hay-elevators. The object of my improvement is to raise hay from a wagon or floor below to any desired point above, and, after it is so raised, to transfer it horizontally to any point preferred, in a cheaper and more expeditious manner than has been done heretofore. It consists in coupling a four-wheel car in a manner that, when put upon a track, a portion of the coupling-frame extends far enough below the coupling to attach a pulley to the extension, upon the external angles of which (the periphery having been hollowed out for the rope) are ratchet-teeth for pawls, for holding the pulley at any desired point in ascending or descending, outside of which pulley, and balanced on its axle, are detent-levers for holding the car in position when being loaded; an extension of the coupling-frame, attached to which, and suspended therefrom by rigid connections, is a ring, by which the levers are thrown out of detention; an incline plane attached to the side bars of the track, in contact with which, as the car passes into position to be loaded, is brought a bar, transversely attached to the front end of the tongue T, which passes up the incline and releases the rope *r*, held on the pulley by the brake formed of the front end of the tongue.

A A, Fig. 3, form the sides, and A' the end, of the track for my improvement, which may be extended to any desired distance. W W are the wheels; *a a*, the axles; C C, the female, and T the male part of the coupling or

tongue, attached and balanced on the shaft at *x x*—forming and constituting the car for a hay-elevator. The hounds or tongue T is extended from the coupling *x* to *t*, for the purpose of forming a brake for the pulley P, that checks the pulley, over which the rope *r* passes, at any desired point. At X X is the point of the coupling of the two ends of the car, the object of which coupling being to form a longitudinal flexure, by which an action is obtained for the working of the brake *t* at the front end of the tongue, hereafter described. By this method of constructing the car, a transverse flexure is also obtained, the result of which is that either of the car-wheels may pass over obstructions, if any happen to be lying on the track, without strain, injury, or oscillation to any other part of the car. For the purpose of facilitating this object, there is a joint in the axles X X at the center, at *a a*, which joint is formed by any desired method to suit the operator. From the point *x*, Fig. 2, on the car, the sides C C of the coupling are extended below the track to S, where they are connected by a bolt that makes and is the axle of the pulley P, which pulley is hollowed out on its periphery, so that the rope *r* will fit the same. *n n* are ratchet-teeth in the angles of the periphery of the pulley, on which drop the pawls *p p*, which hold the pulley from revolving. The pawls *p p* are hung, by one end of the same, on the axle X, which, as the brake *t* or end of the tongue falls to the pulley, drop on the ratchet-teeth, and hold the pulley in position at any point, as desired. The sides C C of the coupling-frame are again extended from the pulley to the point *c*, for the purpose of connecting and strengthening the coupling-frame, and to form points of attachment for rods *r*, for the suspension of the ring R or other fixture for elevating or depressing the detent-levers L L, which are balanced on the pulley-axle S, the office of which levers is to hold the car in position, by means of the detent *d*, during the operation of loading the hay. The levers, being connected at the rear end, are both operated by the same movement of the ring R, which is attached to the connected end of the levers by rigid wood or metal connections, suspending the same, the object of which is, as the load ascends and comes in

contact with the ring, to throw the levers out of the detent *d*, and release the car. *i* is a wood or metal bar, the length of which is the width of the track, bent to an angle in the middle, to have the ends the lowest when fastened on and transversely affixed to the top of the tongue at *t*, being firmly secured to the same. By making the ends of this cross-bar the lowest, they are kept close to the incline *h*, and oscillation is prevented, and room is saved, as the angle passes up between the sides of the track. As the car returns after unloading, these ends of the cross-bar pass up the incline *h*, Fig. 2, which action raises the brake or tongue *t*, releasing the rope *r* on the pulley *p*, and permitting the hay-fork attached thereto to descend for another load. Although the pawls *p p*, in dropping on the teeth on the pulley *P*, retain the pulley in position, they do not prevent the rope from slipping, to do which the coupling-tongue *T* is extended to *t*, which is the brake for the rope, the under side of which is hollowed out and corrugated. Its operation is: As the levers are thrown out of the detent *d* by the ascent of the load, and the car is released, the cross-bar *i* slides down the incline *h*, and brings the brake, with the weight of the apparatus and the load, to bear on the rope, in which the weight of the load is made to balance itself, which is retained in any desired position until run off and unloaded. The metal plates *O*, which form the incline *h*, are rigidly secured to the side bars of the track, and on their lower edge there is a shoulder, *d*, for the detent-lever *L*. The length of the incline is assumed, being long or short at pleasure.

In the track *A*, Figs. 1, 2, there is an angle, *G*, from which to *A*, Fig. 1, the track is level, and from which to *g* it is inclined, as preferred, the object of which is to counteract the sudden start and jerk of the car caused by the elasticity of the rope in starting off with the load, which shakes the hay from the hay-fork, and to facilitate the return of the car to its position, to be again loaded.

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

1. The combination of the cross-joint, forming the longitudinal flexure at *x*, frame *C C*, extended to *S* and *c*, and tongue *T*, extended to *t*, for the purposes substantially as shown and described.

2. The combination of the tongue *T*, extended to *r*, brake *t*, cross-bar *i*, and incline *h*, for the purposes substantially as described.

3. The combination of the joint *a* in the axles *a*, forming the transverse flexure, axles *a*, wheels *W*, and angle *G*, arranged substantially as and for the purpose specified.

4. The combination of the track *A*, angle *G*, wheels *W*, axles *a*, frame *C C T*, brake *t*, pawls *p p*, pulley *P*, levers *L*, detent *d*, incline *h*, cross-bar *i*, and suspended ring *R*, as and for the purposes substantially as shown and described.

To which I herewith set my hand, in the presence of these two witnesses, this 6th day of January, 1874.

GARRETT VAN SICKLE.

Witnesses:

A. C. PARSONS,
WILSEY G. BARNES.