(No Model.)

E. A. ELY.

APPARATUS FOR UNLOADING HAY.

No. 280,159. Patented June 26, 1883.

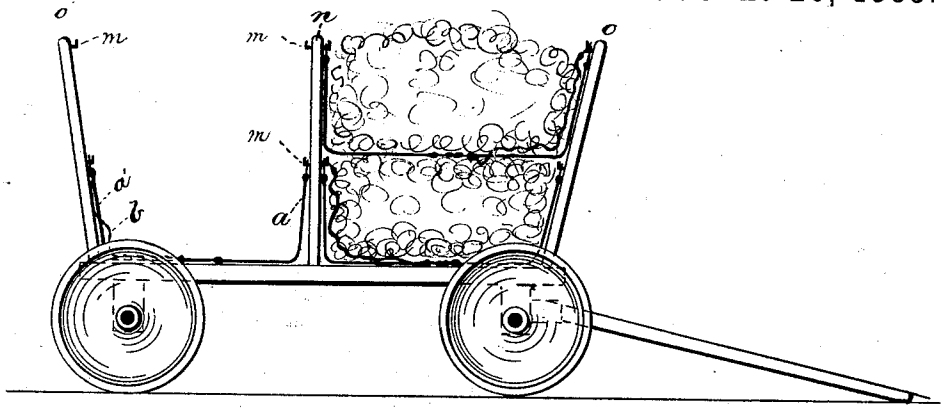


Fig. 1.

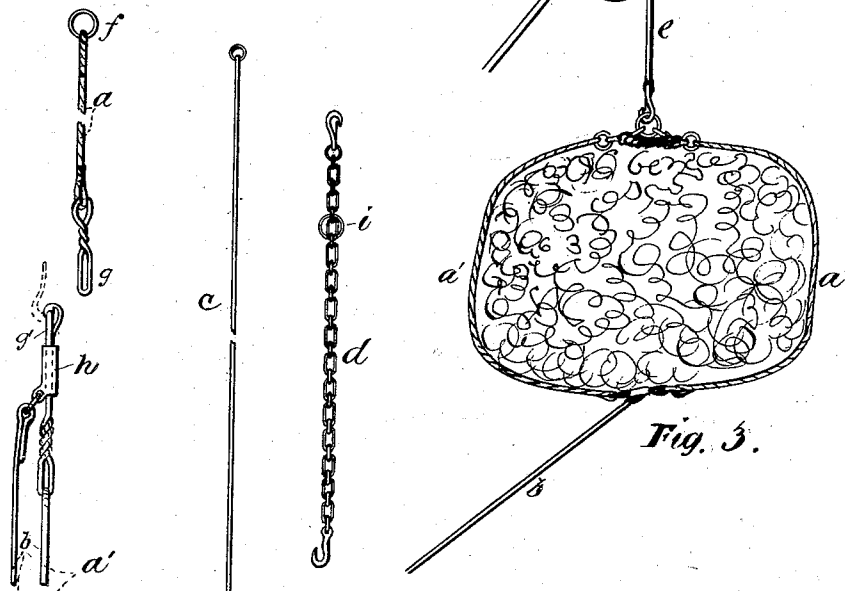


Fig. 3.

Figure 2.

Attest.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR UNLOADING HAY.

SPECIFICATION forming part of Letters Patent No. 280,159, dated June 26, 1883.

Application filed October 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, EUGENE A. ELY, a citizen of the United States, residing at Branchville, in the county of Sussex and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Unloading Hay; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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.

The object of this invention is to facilitate the operation of unloading and storing hay or other similar matter, to reduce the cost of construction, and to simplify the device.

It consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the claims.

In the drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 represents a hay-wagon constructed to operate in conjunction with certain tackling, the same illustrating my improved mode of arranging the hay therein. Fig. 2 illustrates in detail a form or variety of tackle which may be used in connection with said hay-wagon; and Fig. 3, a portion of the load drawn up from the wagon, preparatory to being dropped upon a mow in a barn, with a trip line or cord, which may be understood as leading to and being held by a person standing on the load.

In carrying out my invention I employ common rope (although chain or wire cable may be used, if preferred) cut in lengths *a a'*, sufficient in number and dimensions to encompass and hold, when the same are united, the bulk and quantity of hay to be lifted. Said lengths are provided at their extremities with fastening devices *f g g'*, adapting the same to be fastened to the cart or wagon and to each other, *f* being rings or other suitable devices adapting the ends of the rope upon which they are attached or formed to be caught and suspended from the hooks or other suitable devices, *m*, and *g g'* being locking or fastening devices adapted to engage with one another and unite the ends of the rope beneath the bundle. Said locking devices *g g'* are separably arranged together, and are provided with a key or uncoupling device, *h*, connected with a rope, *b*, which latter enables a person on the load of hay, or at any other point distant, to disconnect the parts *g g'*. Said rope *b* is preferably longer than the rope *a'*, so that when the two are suspended from the same hook, as shown in Fig. 1, the former will have a considerable amount of slack to it, so that the ends *g g'* will not be permanently uncoupled.

In connection with the tackling thus described I use rope *c*, having a ring at one end and a snap-hook at the other, and the chain is provided with hooks at each end, and having the ring *i* thereon. The objects thereof will be set forth hereinafter.

The wagon with which the tackling is used is provided with a central pole or upright, *n*, and front and rear poles, *o*, all being arranged about midway between the sides of the wagon, which poles or uprights are provided with hooks *m*, or devices adapted to receive the extremities of the ropes *a a'*. Said hooks are arranged substantially as shown. The arrangement of the poles, or, more properly, standards, may be modified to suit the nature of the vehicle to which they are attached.

The device is operated as follows, to wit: Preparatory to loading a vehicle the locking devices *g g' h* are properly adjusted to unite the binding or lifting ropes *a a'*, which latter are then temporarily attached, by means of the rings *f* and hooks *m*, to the poles *n o*, the said ropes being stretched across the bottom and up the sides of the vehicle, as shown. This being done, the wagon is filled to about one-fourth of its capacity, the hay being thrown into either the front or rear division of the cart and filled in about one-half the depth of the same, as will be readily understood. A second rope is then stretched across the top of the last said hay, and secured in a like manner to upper hooks and the hay filled in to the full vertical capacity of the wagon. The remaining division of the wagon is then filled in like manner and the

load drawn to the barn for unloading. The divisions are unloaded in reverse order to their being filled. In this way the hay of one said division is prevented from tying that of the other. In the operation of unloading, the rope *c* is hooked onto one of the rings *f*, and the other end drawn through the opposite ring. The attendant then draws the two ends together, or as nearly so as possible, compacting the hay into a firm bundle. The rope *c* may be passed back and forth several times through the rings *f* and tied, the ring thereof remaining free to connect with the pulley-rope *e*, Fig. 3, or after the ends are drawn together the chain *a* may be passed through and secured, the ring *i* receiving the hook of the pulley-rope. After the bundle is thus prepared it is drawn up in the usual manner by the pulley-rope *e*. The attendant retains the end of the "trip-rope" *b*, upon which, when the bundle arrives at its proper destination, he pulls and uncouples the extremities *g g'* and allows the hay to fall. The coupling device, being upon the under side of the bundles, allows the rope to free itself from the hay, so that the tackle may be drawn back immediately.

It is evident that the fastening devices on the ends of the ropes can be modified very considerably without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. The combination, with the wagon having the standards *o* and *n*, and the connectives *m*, of the tackling adapted to inclose the bundle of hay and be uncoupled underneath the same, the elevating or hoisting mechanism, and a trip-rope, all arranged and operating substantially as herein set forth.

2. The combination, with the ropes *a a'*, having fastening devices *f*, adapted to engage with hooks *m* at the outer ends, and at the other locking devices, whereby said ropes *a a'* are united, of the trip-rope *b*, secured to the locking device on the end of the rope *a'*, all arranged and operating substantially as set forth.

3. The combination, with the hay-wagon standards provided with hooking devices *m*, of the ropes *a a'*, provided with rings or other appropriate devices, *f*, and a locking device, *g g' h*, all substantially as herein set forth and shown.

4. In combination, the ropes *a a'*, provided with parts *f*, adapted to engage with hooks on the wagon-standards, and a locking device adapted to detachably connect the two said ropes, a trip-rope, *b*, united to said locking device, and a rope, *c*, adapted to pass through the parts *f* and draw the same together, all substantially as herein set forth.

5. A hay-wagon provided with standards having hooks at the top and midway between the top and bottom, in combination with hay-tackling, all substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of September, 1882.

EUGENE A. ELY.

Witnesses:
OLIVER DRAKE,
E. C. HOPPING.