R. Furnas,

Hay Elevator.

No. 110,224. Patented Dec. 20. 1870.

Fig 1.

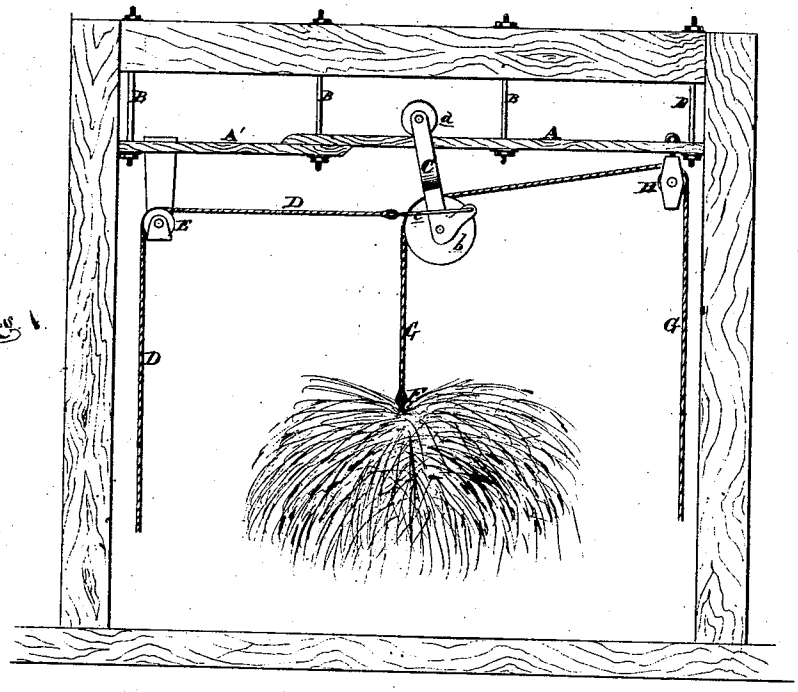
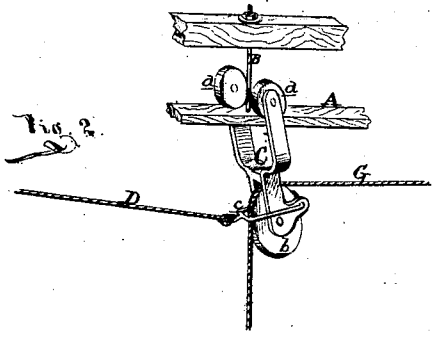


Fig 2.



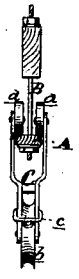


Fig 3.

ATTEST

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ROBERT FURNAS, OF FRIENDSWOOD, INDIANA.

Letters Patent No. 110,224, dated December 20, 1870.

IMPROVEMENT IN HAY-ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, ROBERT FURNAS, of Friendswood, in the county of Hendricks and State of Indiana, have invented a new and useful Improvement in a Hay-Elevator; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is an elevation of my device in operation;

Figure 2 is a detached perspective view of the traveler; and

Figure 3 is a cross-section of the same.

Like letters indicate like parts in each figure.

The nature of this invention relates to an improved device for elevating hay in a barn, and conveying the same to the point in the bay where it is desired to dump it; and

It consists in the novel and peculiar construction and method of operating a traveler or conveyer on a single rail suspended from the rafters of the barn by means of a hand-rope, said traveler carrying a hay-fork provided with a tripping-line, and operating as hereinafter set forth.

In the drawing—

A A′ represent a horizontal rail or stringer, of wood, suspended from the rafters, near the roof of the barn, by iron rods, B, passing through the center thereof. The shorter of the rail-sections has the end of the longer one overlapping it, said end being scarfed to an angle, as shown in fig. 1. The short section is designed to be directly over the floor on which the loaded vehicle stands, and, if the barn has bays at each side thereof, the long section A should extend each way from the shorter one to the ends of the barn.

C is the traveler or conveyer, preferably of iron, having its upper part forked, and at the extremities of the forks are inwardly-projecting studs carrying rollers, *a*, which move upon the outer edges of the horizontal rail, clearing in their passage the central supporting-rods thereof, as shown in figs. 2 and 3.

In the lower part of the traveler a sheave, *b*, is pivoted, and eccentrically thereto a bail, *c*, is also pivoted therein, passing around the sheave above the central plane, and having attached thereto the hand-rope D, passing over a sheave, E, suspended from the rail-section A′.

To the eye of a hay-fork, shown at F in fig. 1, the the elevating-rope G is attached; thence led over the sheave *b* in the traveler, passing under the bale *c;* thence along the under side of the rail A to the outer end thereof, over a sheave, H, suspended from it, down to a proper guide-pulley secured to the floor, and thence out of the barn, where the team is attached to its other end.

Any hay-fork having a tripping-line to discharge its load may be used.

The action of the bail *c* is to wedge the rope G into the groove of the pulley *b* as soon as a downward strain is exerted on the end having the fork attached thereto, thereby preventing the loaded fork from running down, unless the bail be raised by the hand-rope.

The operation of my improvement may be described in the following manner:

The loaded wagon being on the floor, and a team attached to the elevating-rope, the latter is slacked up, so that the operator standing on the load may, with the hand-rope, draw the traveler toward him. He then inserts the fork in the hay, and causes the team to be started forward, which will elevate the fork and its load to the traveler, which in the meantime remains on the rail A′, when the continued draft compels the carrying-wheel *d* to travel up the inclined plane at the end of the long rail, and thence along it to the outer end, when the team is halted, or over any desired point in the bay, where the load is discharged by pulling on the tripping-line. The team is then backed up, and the operator draws back the traveler by the hand-rope, and the above-described operation repeated.

The pulley E should be so placed that its top will be on a plane above the bight of the ball when the traveler is on the short rail, and below it when on the long rail. In the former instance a strain on the hand-rope withdraws the bail from contact with the hoist-rope; in the latter it does not.

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

1. The traveler C, having two upper branches, each provided with a roller, *a*, a sheave, *b*, and bail, *c*, all constructed substantially as described and shown, and arranged as and for the purposes set forth.

2. In combination with the traveler C, constructed as described and shown, the rails A and A′, the hand-rope D, the hoist-rope G, and the pulleys E and H, all constructed and arranged substantially as described and shown, for the purposes set forth.

ROBERT FURNAS.

Witnesses:

O. E. PALMER,

ELIAS PALMER.