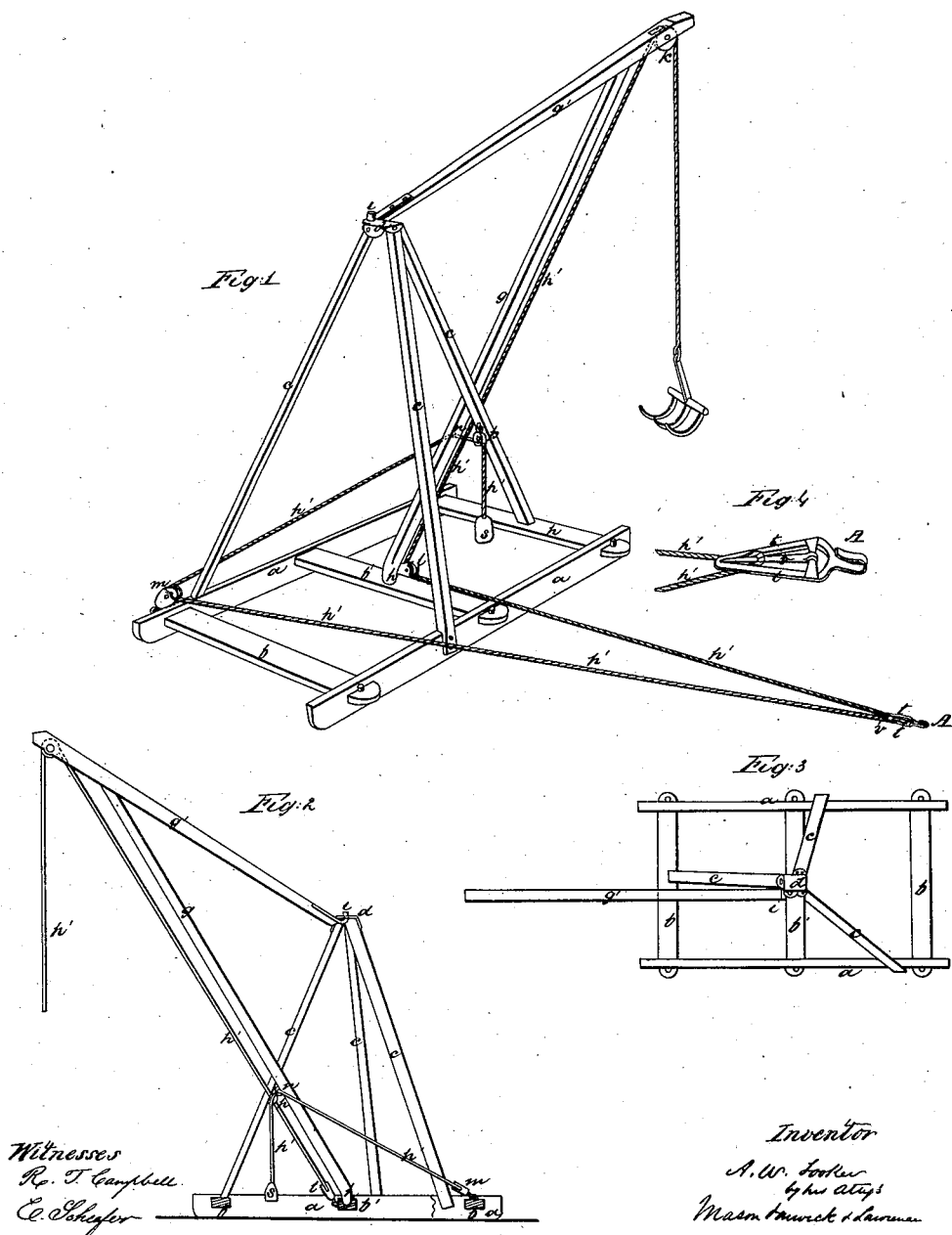


*Derrick.*

N<sup>o</sup> 48,742.

*Patented July 11, 1865.*



# UNITED STATES PATENT OFFICE.

A. W. TOOKER, OF HARVARD, ILLINOIS.

## IMPROVEMENT IN HAY ELEVATOR AND STACKER.

Specification forming part of Letters Patent No. 48,742, dated July 11, 1865.

*To all whom it may concern:*

Be it known that I, A. W. TOOKER, of Harvard, county of McHenry, and State of Illinois, have invented a new and Improved Stacker; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my stacker complete. Fig. 2 is an elevation of the stacker and a section through its base. Fig. 3 is a top view of the stacker. Fig. 4 is a hitching-clasp used for attaching the horse to the draft-rope.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improved mode of constructing that class of stackers in which the horse elevates the load and swings the same over and upon the stack in moving off from the machine, and then causes the fork to return to its original position for receiving another load in returning toward the machine again.

The object of my invention is to secure lightness and portability, and at the same time strength, by dispensing with the vertical post hitherto used and employing a tripod-frame, in conjunction with a crane which is composed of two inclined beams, which are pivoted respectively to the tripod-frame and to the base upon which this frame is erected, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

The foundation-frame of my machine is composed of two longitudinal sill-beams, *a a*, secured together by means of transverse sills *b b'*, which are tenoned into the sill-beams *a a*. Upon this foundation I erect a tripod composed of three inclined beams, *c*, secured at their lower ends to one of the sills, *b*, and to the longitudinal beams *a a*, as shown clearly in Fig. 1. The upper ends of the beams *c* are secured together by means of a cap-plate, *d*, a portion of which constitutes a bearing for the pivot of the upper brace of the crane. The legs of the tripod are spread apart at their lower ends, so that they afford steadiness to the machine and allow the crane-arms to have all the swinging motion required.

The crane is composed of two beams or arms,

*g g'*, inclined at about the angle represented in Figs. 1 and 2. The beam *g* has a vertical pin, *h*, formed on its lower end, which pin may be shod with metal and stepped in a metal bearing in the central transverse sill, *b'*. The upper end of this beam *g* is suitably secured to the beam *g'* at an intermediate point between the ends of the latter. The lowermost end of the beam *g'* has a vertical pin, *i*, applied to it, which enters the vertical hole through the cap-plate *d*, and constitutes a pivot for the upper portion of the crane, and also a hook or stay-pin for supporting the crane and connecting it to the tripod.

By thus constructing the frame-work of my stacker I am enabled to dispense with a central revolving post, and to dispose the beams in such manner that they will receive the weight of the load upon them to the best advantage. The supporting frame or tripod becomes a brace for steadying the machine while elevating a load, and the inclined beam *g* becomes a prop for sustaining the weight brought upon or suspended from the jib or swinging beam *g'*. I am thus enabled to employ very light beams and to make the stacker sufficiently portable to serve a practical purpose as such.

The stacker, when thus constructed, is rigged as follows: A rope, *h'*, is passed over a sheave, *k*, at the outer end of the beam *g'* and carried to a pulley-block, *l*, which is attached to the central sill-beam, *b'*, thence around one of the legs of the tripod and across the foundation-frame to another pulley-block, *m*, through which the rope is passed and carried off to the inclined beam *g*, to which it is fastened at *n*. The rope *h'* is carried from the point *n* to one of the legs of the tripod and passed over a pulley of block *p*, and to the pendent end of this rope a weight, *s*, is applied, which should be sufficiently heavy to swing the crane-arms back to the position represented in Fig. 1 after the discharge of a load.

To operate my machine the horse is hitched to a hook, *A*, which is secured by means of a loop, *t*, and pivoted tongue *v* to the rope *h'*, as shown in Fig. 1. That portion of the rope *h* which extends from the pulley *m* to the hitching-hook *A* is slack until the load of hay has been elevated to a sufficient height to allow it to pass freely over the stack. When this occurs the further movement of the horse will take up the slack rope and swing the load or

crane-arms round over the stack. When the load is discharged the horse backs toward the machine and the weight *s* swings the crane back to its original position. As the stack increases in height it may be necessary to adjust the hitching-hook *A* so as to allow the horse to travel farther before swinging the crane round over the stack. This adjustment may be made very readily with the hitching-hook which I have represented in Fig. 4.

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

1. The combination of the crane-beams *g g'* with a tripod, which is supported upon a foundation-frame, when said beams are supported by and applied to their frame, substantially as described.

2. The arrangement of the rope *h'* upon a stacker, which is constructed without a central turning-post in such manner that the movements of the horse can be made to effect the raising of the load and the turning of the crane-arms, substantially as described.

3. The use of an adjustable hitching-hook, *A*, in combination with a crane, *g g'*, or its equivalent, and the rigging *h'*, arranged to operate substantially in the manner and for the purpose described.

Witness my hand in the matter of my application for a patent on a hay elevator and stacker this 9th day of February, 1865.

A. W. TOOKER.

Witnesses:

C. R. BROWN,

DANIEL CARPENTER.