

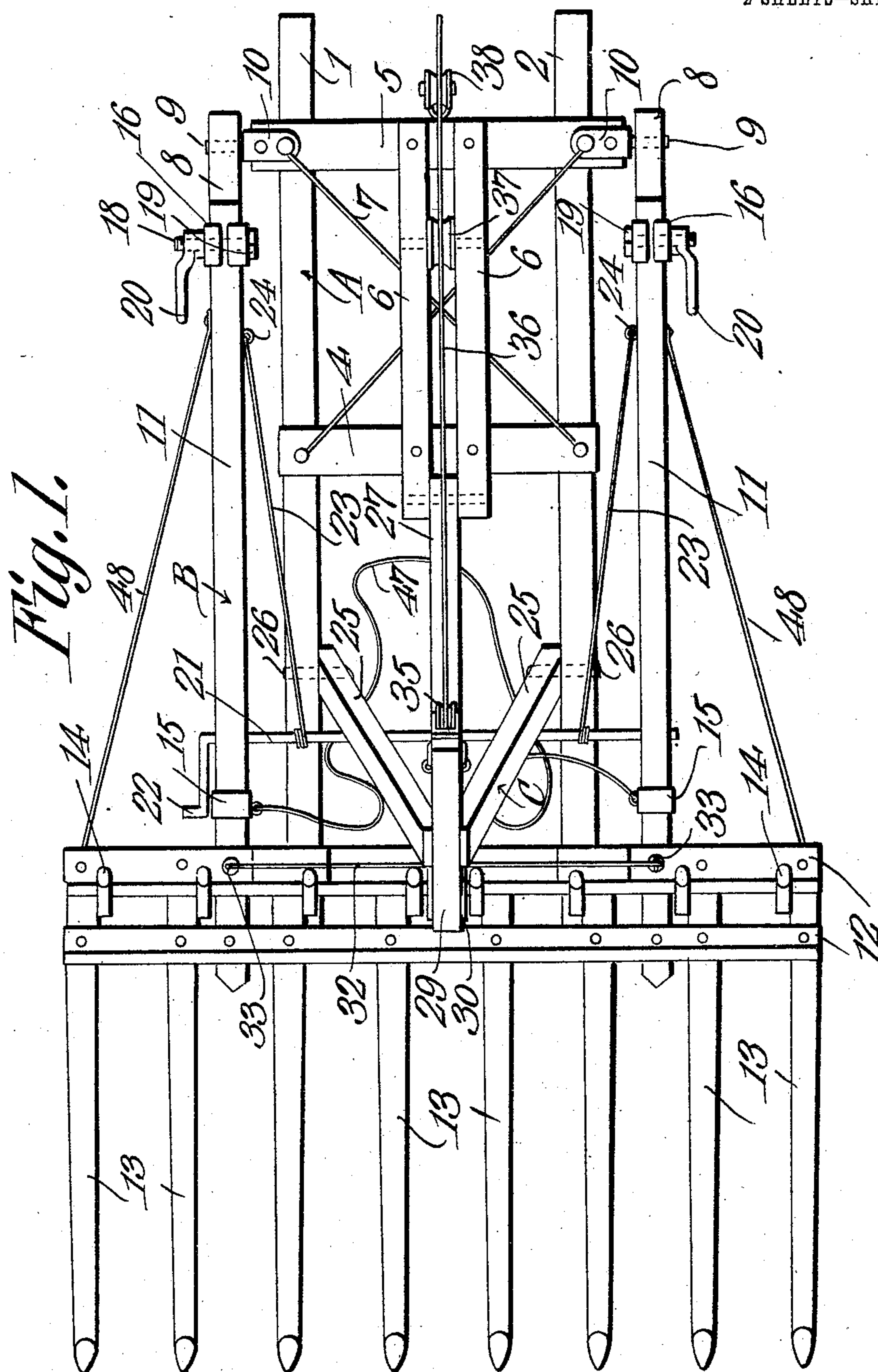
No. 842,235.

PATENTED JAN. 29, 1907.

J. H. NEEB.  
HAY STACKER.

APPLICATION FILED AUG. 20, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

E. J. Howard

W. H. Crichton-Clarke

*Jacob H. Neeb,* INVENTOR.

By *CA Snow & Co.*

*ATTORNEYS*

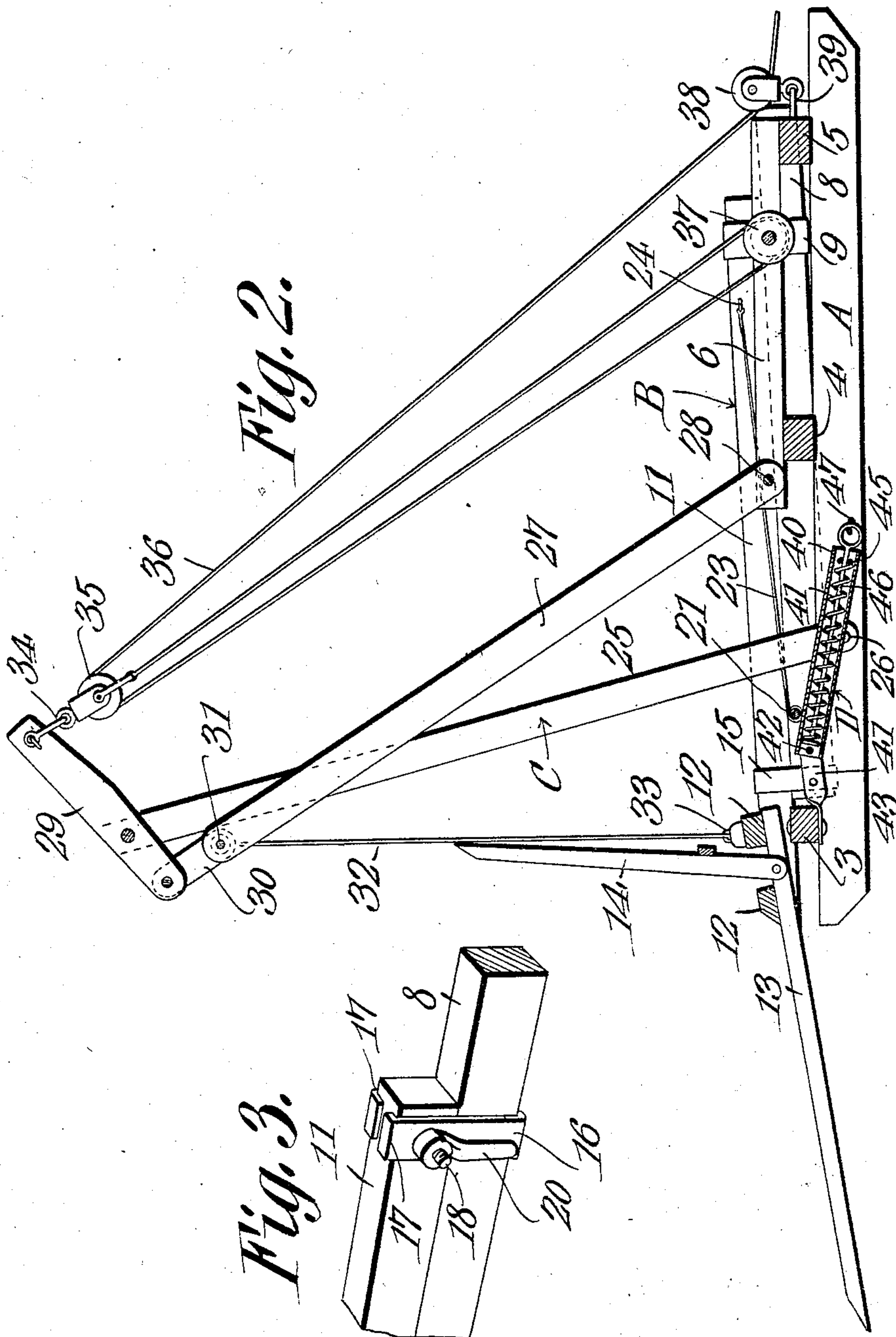
No. 842,235.

PATENTED JAN. 29, 1907.

J. H. NEEB.  
HAY STACKER.

APPLICATION FILED AUG. 20, 1906.

2 SHEETS—SHEET 2.



WITNESSES:

*E. H. Stewart*

*W. H. Crichton - Clarke*

*Jacob H. Neeb,* INVENTOR.

By *C. A. Snow & Co.*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

JACOB H. NEEB, OF UNIONVILLE, MISSOURI.

## HAY-STACKER.

No. 842,235.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed August 20, 1906. Serial No. 331,359.

*To all whom it may concern:*

Be it known that I, JACOB H. NEEB, a citizen of the United States, residing at Unionville, in the county of Putnam and State of Missouri, have invented a new and useful Hay-Stacker, of which the following is a specification.

This invention relates to hay-stackers.

A disadvantage of devices of the character specified as usually constructed is that when they are adapted to lift hay onto a high wagon or stack they do not always operate properly in loading hay onto a low wagon or stack, for the reason that the hay is thrown high enough to be caught by the wind and carried over the stack or wagon.

The object of the present invention is to provide a hay-stacker which can be readily adjusted in such manner as to adapt it to be used on stacks or wagons of different heights without raising the hay too high.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a hay-stacker constructed in accordance with the invention. Fig. 2 is a vertical section, and Fig. 3 is a detail perspective view of the clamping means for the side bars of the extensible frame.

Like reference characters indicate corresponding parts in the different figures of the drawings.

The improved hay-stacker of this invention comprises a ground-frame, which is indicated generally by A, a lifting-frame, indicated generally by B, and a derrick-frame, indicated generally by C.

The ground-frame A preferably consists of longitudinal sills 1 2, which are connected with each other by a forward cross-bar 3, an intermediate cross-bar 4, and a rear cross-bar 5. If desired, the ground-frame A may be provided with ordinary carrying-wheels of suitable form and construction. Mounted upon the intermediate cross-bar 4 and rear cross-bar 5, adjacent the central portions

thereof, is a pair of parallel bracing members 6 6. For the purpose of strengthening the ground-frame crossed tie-rods 7 7 preferably are connected with the opposite ends of the intermediate and rear cross-bars 4 and 5, as shown, said tie-rods extending under the parallel bracing members 6.

The lifting-frame B, which is extensible in form, so as to adapt it for use in lifting hay to various heights, consists, preferably, of lower side bars 8 8, which are pivotally mounted upon stud-shafts 9, formed with integral brackets 10, which are suitably secured to the rear cross-bar 3 of the ground-frame. Slidably mounted upon the lower side bars 8 8 of the lifting-frame in any suitable manner is a pair of upper side bars 11 11, which are connected at their upper ends by the parallel cross-pieces 12 12, to which the rake-teeth 13 are secured in any suitable manner. Pivotaly connected with the rake-teeth 13 is a set of back teeth 14, which extend between the parallel cross-pieces 12 12, as shown, so as to be limited in their movements by said cross-pieces. It will be understood that the rake-teeth 13 serve to support the hay when the lifting-frame is raised into vertical position in the act of throwing the same backward over the ground-frame onto the wagon or stack, which is located in rear of the device.

The preferred means of slidably mounting the upper side bars 11 of the lifting-frame upon the lower side bars 8 consists of bands 15, which are secured to the lower side bars 8 and slidably embrace the upper side bars 11, as shown, said bands 15 cooperating with the clamps 16, which are mounted upon the lower ends of the upper side bars 11. Each of the clamps 16 comprises a pair of plates having bent ends or lugs 17, which are fitted against the edges of the side bars 8 and 11, said plates being adapted to be drawn together by means of a clamping-bolt 18, having nuts 19 and a handle 20. By loosening the clamping-bolts 18 and nuts 19 the upper side bars 11 of the lifting-frame can be suitably adjusted upon the lower side bars 8, after which said upper side bars can be clamped securely in position by tightening the bolts 18.

The preferred means of extending the lifting-frame B by moving the upper side bars 11 upon the lower side bars 8 consists of a shaft 21, bearing in side bars 8 and having a crank-handle 22, and a pair of flexible ele-



ments 23 are suitably wrapped around said shaft and are connected at their lower ends with eyes 24, mounted upon the upper side bars 11 of the lifting-frame. It will be apparent that by loosening the clamps 16 as described and rotating the shaft 21 the upper side bars 11 will be adjusted longitudinally upon the lower side bars 8 to extend the lifting-frame.

The derrick-frame C preferably consists of an approximately V-shaped forward derrick member 25, which is pivotally connected with the longitudinal sills 1 and 2 of the ground-frame A, as indicated at 26, and a rear derrick member 27, which is pivotally mounted between the parallel bracing members 6 6, as indicated at 28. The forward derrick member 25 is provided at its upper end with a rocking arm 29, which is connected, by means of a link 30, with the rear derrick member 27. Extending from the pivot-bolt 31 of the link 30 is a pair of diverging connecting-rods 32, which are secured at their forward ends to eyes 33 upon the rear parallel cross-piece 12. The rear end of the rocking arm 29, which preferably is longer than the forward end thereof, is provided with a pivotally-mounted bail 34, with which is connected a pulley 35. Suitably secured to the pulley 35 is a flexible element 36, which extends downward around a pulley 37, journaled between the parallel bracing members 6 6 of the ground-frame A, then upward through the pulley 35, and finally downward through a pulley 38, connected with an eye 39 upon the rear cross-bar 5 of the ground-frame A. In operating the improved device a draft-animal is secured to the flexible element 36 and is driven forward and backward for the purpose of raising the lifting-frame B by rocking the derrick-frame, as will be apparent.

For the purpose of easing the backward movement of the lifting-frame and also giving the same an initial forward movement after it has dumped the load of hay onto the wagon or stack a resilient device D is provided, said device being in the nature of a casing 40, which is adjustably mounted, by means of a trunnion-bolt 42, upon a bracket 41, secured to the cross-beam 3. The bracket 41 is provided with a plurality of perforations 43, adapted to receive the bolt 42, so that said casing can be adjusted upon the bracket 41 to regulate the tension of the resilient device, as will hereinafter appear. Mounted in the casing 40 is a coil-spring 44, which is held in position by a transverse pin 45 and has connected therewith a draw-rod 46. Extending from the draw-rod 46 to the lower side bars 8 8 of the lifting-frame B is a pair of diverging flexible elements 47.

When the lifting-frame B is thrown backward to discharge the load of hay which it contains, the flexible elements 47, together

with the coil-spring 44, serve to limit the backward movement thereof in a yielding manner and also to impart an initial forward and downward movement to said lifting-frame as soon as the load is discharged. It will be apparent that by adjusting the casing 40 upon the bracket 41 the tension of the coil-spring 44 can be properly regulated.

If desired, brace-rods 48 can be connected with the rear parallel cross-piece 12 of the lifting-frame and the upper side bars 11, as shown, for the purpose of strengthening the construction.

The improved hay-stacker of this invention is strong, simple, durable, and inexpensive in construction, as well as thoroughly efficient in operation.

What is claimed is—

1. A hay-stacker comprising a ground-frame, an extensible lifting-frame, and a derrick-frame comprising a rear derrick member, a forward derrick member, a rocking arm mounted on the forward derrick member and having a link connection with the rear derrick member, and means for operating said rocking arm and derrick-frame for elevating the lifting-frame.

2. A hay-stacker comprising a ground-frame, an extensible lifting-frame pivotally connected with said ground-frame and having rake-teeth, a derrick-frame comprising a forward derrick member, a rear derrick member and a rocking arm pivotally mounted upon said forward derrick member and having a link connection with said rear derrick member, connecting-rods extending between said rear derrick member and said lifting-frame, and a flexible element connected with said rocking arm for operating the said derrick-frame and raising said lifting-frame.

3. A hay-stacker comprising a ground-frame consisting of longitudinal sills, forward, intermediate and rear cross-bars and parallel bracing members connecting said intermediate and rear cross-bars, stud-shafts connected with said rear cross-bar, a lifting-frame pivotally mounted upon said stud-shafts and comprising upper and lower side bars slidably connected with each other, clamps for locking said side bars in adjusted position, a shaft having flexible elements for moving the upper side bars upon the lower side bars to extend the lifting-frame, rake-teeth carried by said lifting-frame, a derrick-frame consisting of a forward derrick member pivotally mounted upon the longitudinal sills of the ground-frame, a rear derrick member pivotally mounted between the parallel bracing members of the ground-frame, a rocking arm mounted upon the forward derrick member and having a link connection with the rear derrick member, connecting-rods extending between the rear derrick member and the lifting-frame, a pulley connected with the rear end of the rocking arm,



a second pulley mounted between the parallel bracing members of the ground-frame, a third pulley connected with the rear cross-bar of the ground-frame, a flexible element  
5 connected with the first-mentioned pulley and extending through said second pulley, then through said first pulley and then through said third pulley for raising the lifting-frame, and a resilient device connected  
10 with the forward cross-piece of the ground-frame and having flexible elements attached

to said lifting-frame for easing the rearward movement thereof and for imparting an initial forward movement thereto.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
the presence of two witnesses. 15

JACOB H. NEEB.

Witnesses:

T. G. BEATTY,  
A. E. NEEB.