

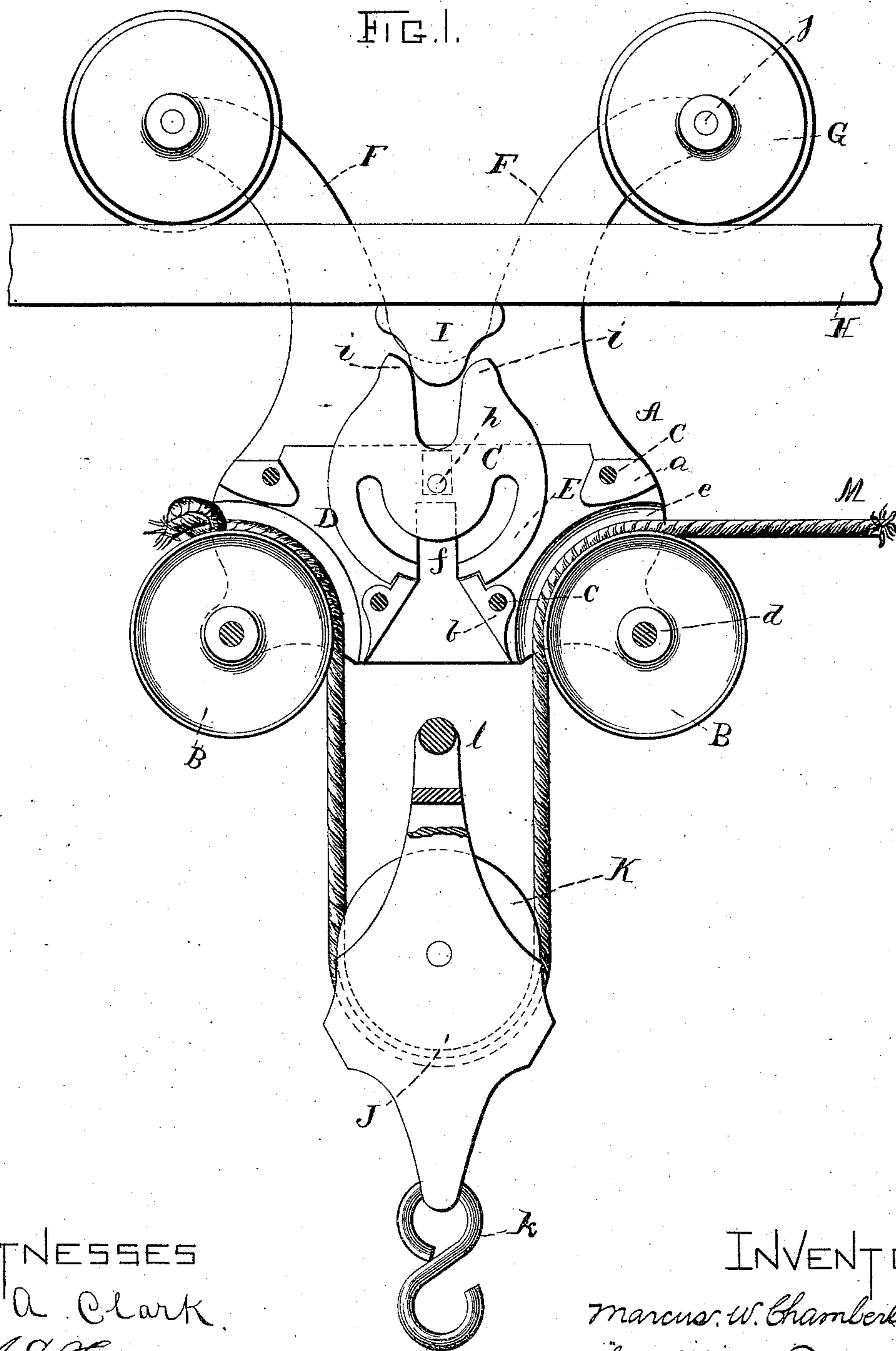
(No Model.)

2 Sheets—Sheet 1.

M. W. CHAMBERLAIN.
HAY ELEVATOR AND CARRIER.

No. 305,666.

Patented Sept. 23, 1884.



WITNESSES
N. A. Clark.
M. E. Fowler.

INVENTOR
MARCUS W. CHAMBERLAIN.
By William Barton
Ass. Attorney.

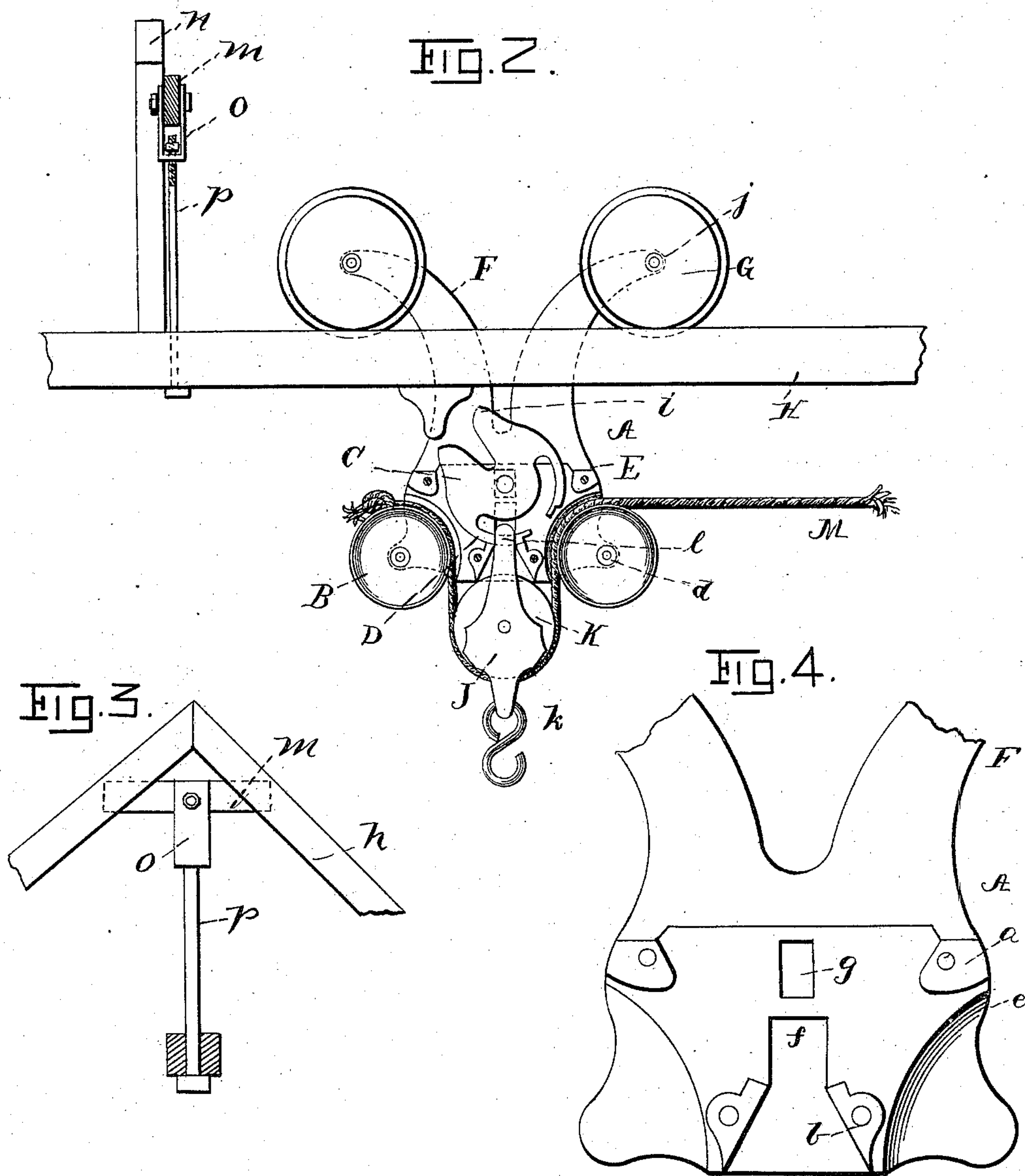
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INVENTOR
Marcus W. Chamberlain
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UNITED STATES PATENT OFFICE.

MARCUS W. CHAMBERLAIN, OF BRANCHVILLE, NEW JERSEY.

HAY ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 305,666, dated September 23, 1884.

Application filed November 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, MARCUS W. CHAMBERLAIN, 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 Hay Elevators and Carriers, of which the following is a specification.

My invention has reference to devices for elevating and carrying hay; and the said invention consists in the improvements and combinations of parts hereinafter fully described, whereby the pulley-block to which the load is attached may be easily and readily elevated for engagement with the suspending and carrying device, and the movements of said carrying device made the medium of actuating the locking mechanism to secure the said pulley-block to said carrier.

In the accompanying drawings, forming part of this specification, Figure 1 illustrates in elevation a structure embodying my improvements, one side being removed to illustrate more clearly the arrangement of parts; Fig. 2, a somewhat similar view, the parts being represented in a different position. Fig. 3 is a detail view showing the arrangement of the carrier rail or way, and Fig. 4 is another detail view representing one of the plates forming the sides of the carrier proper.

The carrier proper consists, primarily, of two plates, A, Figs. 1, 2, and 4, which are arranged parallel with each other, and one or both of which are provided with a series of lugs or projections, *a b*, which maintain the plates in proper relative position to provide an intermediate recess between them. The plates A are perforated at the points where the lugs *a b* are located for the passage of securing-bolts *c*. Each lower corner of each plate A is rounded, as shown most clearly in Fig. 4, and perforated to form a bearing for one end of a bolt, *d*, upon which is mounted and turns a grooved pulley, B, each plate A being cut away adjacent to the periphery of said pulley to form a curved channel, *e*, Fig. 1. The lugs *b* are secured in an incline, to form between them a space, which constitutes the approach to a rectangular recess, *f*, formed centrally between the plates. A slot, *g*, is formed in the plates, so as to register with

each other when the plates are secured together.

The securing or locking device consists of a plate, C, which is centrally pierced by a bolt or pivot, *h*, the ends of which normally bear in the bottom of the slots *g*. This plate C is cut away or otherwise formed at its lower portion to present two bolts, D E, which, when the plate C occupies its normal position, (illustrated in Fig. 1,) terminates flush with each side of the recess *f*, while the lower portions of such terminals are notched to receive the upper ends of the lugs *b*, thereby preventing oscillation of said plate on its bolt *h* while in said position. The upper portion of said plate C is cut away, as indicated in Figs. 1 and 2, on either side of which cut-away portion the plate is extended to form ears *i*. Two vertical curved arms, F, are formed integrally with the plates A, and are perforated at their ends to form bearings for the shaft *j* of a roller, G, which bears upon the rail or way H to suspend the carrier. A strap, I, is secured to and depends from the under side of the rail H.

J refers to the pulley-block, in which turns the pulley K, and from the lower portion of which depends the link *k*, designed for attachment to the load. The upper portion of said block is extended and tapers to constitute a bail or loop, *l*. The operating-rope M is passed around the pulleys B and K, as illustrated in Figs. 1 and 2, one end being knotted to provide for the connection of said rope with the carrier without interfering with the capacity of said rope for sliding through one of the pulleys B to lower the pulley-block J. The load being attached to the hook *k*, the free end of the rope is pulled, thereby elevating the pulley-block J and its attached load until the bail *l* of the same enters the space *f*, contacts with the plate C, and lifts it in its slotted bearings, the bolts D E becoming disengaged from the ends of the lugs *b*, oscillation of said plate C on its pivot being prevented by reason of the depending stop I entering the space formed by the cut-away portion of the plate C between the ears *i*. When the limit of the rise of the plate C has been reached, further traction on the rope will cause one of the ears *i* to bear against the side of the stop I, and thereby tilt said plate, as indicated in

Fig. 2, causing one of the bolts, D, of the same to pass through the bail 7 of the pulley-block and secure the suspension of said block and its load.

5 With the parts in the position above described the carrier may be moved along the rail, the ears *i* of the plate C clearing the stop. Another stop, similar to the stop I, is arranged on the rail at the limit of the carrier's travel,
10 and is contacted with by one of the ears *i* of the plate C to restore said plate to its first position and drop the load.

In Figs. 2 and 3 I have illustrated a construction provided for the proper suspension
15 of the rail. A bar, *m*, is secured to the beams *n* of the roof, and has centrally pivoted thereto a yoke, *o*, the lower portion of which is perforated for the passage of the upper threaded end of a rod, *p*, held in engagement with said
20 yoke. The lower end of said rod pierces the rail or way to receive a suitable nut to suspend the way. By this construction the rail is readily, easily, and securely suspended, and capable of yielding to swing under the movements of
25 the carrier to prevent jar or strain encountered by rigid suspending devices.

I claim—

1. The combination, in a hay elevating and carrying device, of a carrier-frame, suspending-rollers connected therewith, an operating-
30 rope connected to the said carrier-frame and suitably guided, a pulley-block having a loop and containing a pulley around which said rope passes, a bolt-plate adapted to be locked
35 in a disengaged position and capable of vertical movement to become disengaged and tilted to pass through the pulley-block loop when the pulley-block is elevated, substantially as set forth.

40 2. The combination, in a hay elevating and carrying device, of a carrier-frame, suspending-rollers connected therewith, an operating-rope connected to the said carrier-frame and suitably guided, a pulley-block having a loop
45 and containing a pulley around which said rope passes, a bolt-plate adapted to be locked in a disengaged position, and capable of vertical movement to become disengaged and tilted

to pass through the pulley-block loop when the pulley-block is elevated; and a guide rail 50 or way having a loop adapted to contact with said bolt-plate to release said pulley-block, substantially as set forth.

3. The combination, in a hay elevating and carrying device, of a carrier-frame, supporting-rollers connected therewith, an operating-
55 rope connected to the said carrier-frame and suitably guided, a pulley-block having a loop and containing a pulley around which said rope passes, a bolt-plate adapted to tilt to
60 pass through the pulley-block loop when the pulley-block is elevated, and devices for locking said bolt-plate in disengaged position, substantially as set forth.

4. The combination, in a hay elevating and
65 carrying device, of a carrier-frame, supporting-rollers connected therewith, a plate provided with two bolts and adapted to tilt in either direction to throw either of said bolts
70 alternately into play, substantially in the manner and for the purpose set forth.

5. The combination, in a hay elevating and carrying device, of a carrier-frame, supporting-rollers connected therewith, a plate pro-
75 vided with two bolts and adapted to tilt to throw either of said bolts alternately into play, and devices for locking said plate in a normal position, substantially as set forth.

6. The combination, in a hay elevating and
80 carrying device, of a carrier-frame, supporting-rollers connected therewith, a plate journaled and adapted to play vertically in a slot and provided with a bolt, devices for locking
85 said plate in a disengaged position when bearing in the lower portion of the slot and capable of releasing the said plate when elevated in the slot, substantially as set forth.

7. The combination, in a hay elevating and carrying device, of the pivoted yoke, with rod
90 connected vertically adjustable thereto, and having secured at its lower end the guide rail or way, substantially as set forth.

MARCUS W. CHAMBERLAIN.

Witnesses:

MARTIN ROSENKRANS,
CHAS. P. RORBACK.