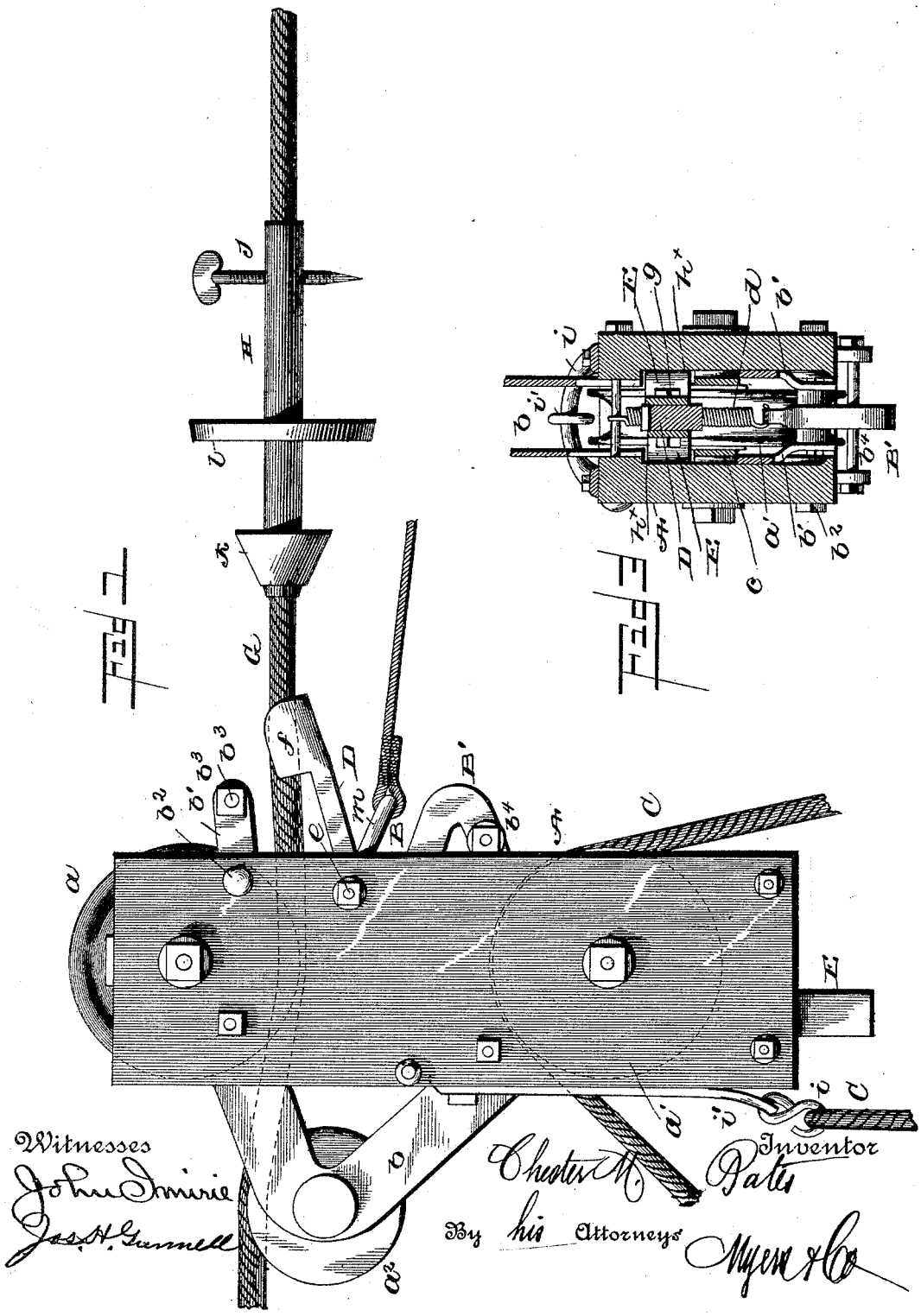
(No Model.) 3 Sheets—Sheet 1.

C. M. BATES.

COMBINED ELEVATOR AND CARRIER.

No. 491,511. Patented Feb. 14, 1893.



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(No Model.) 3 Sheets—Sheet 2.

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COMBINED ELEVATOR AND CARRIER.

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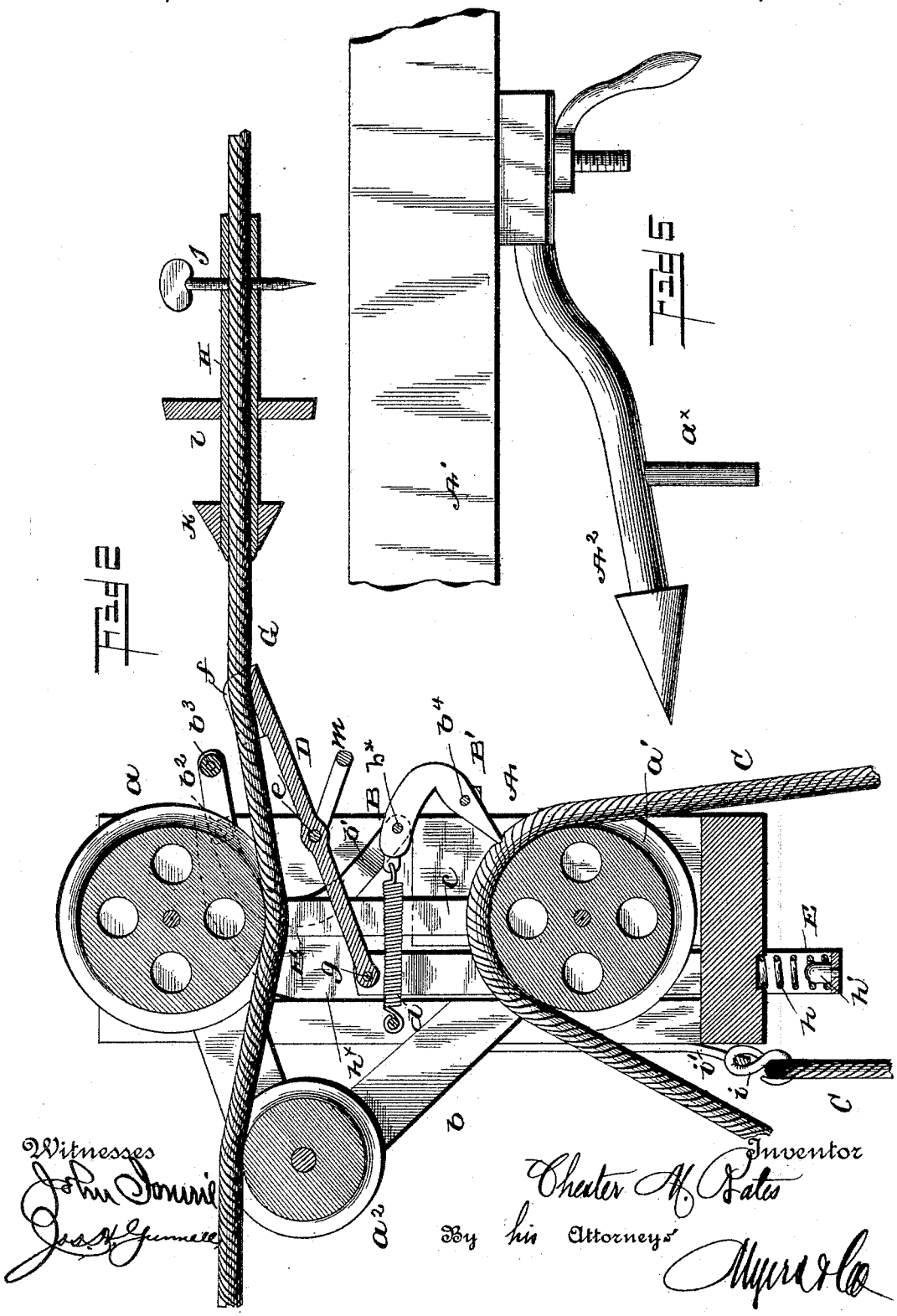

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(No Model.) 3 Sheets—Sheet 3.

C. M. BATES.

COMBINED ELEVATOR AND CARRIER.

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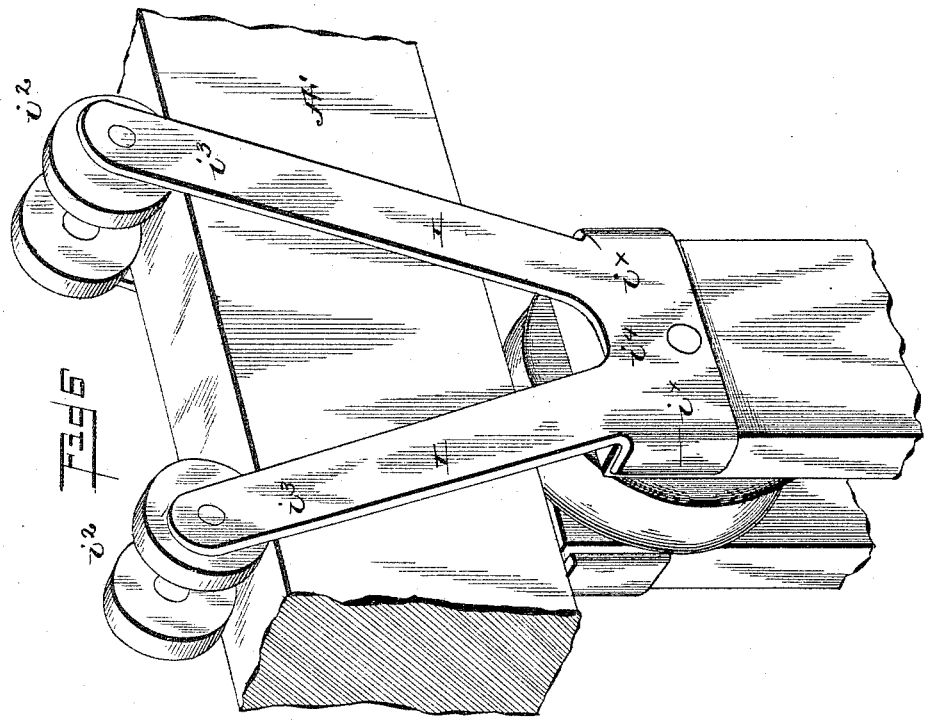

FIG 3

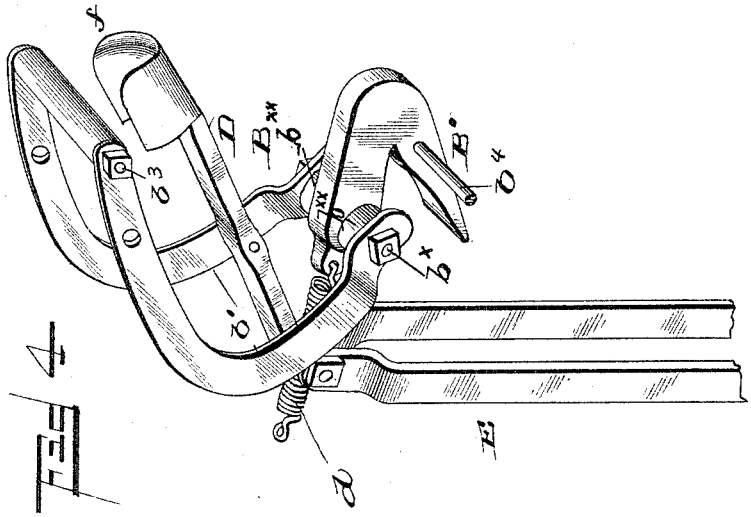

FIG 4

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UNITED STATES PATENT OFFICE.

CHESTER M. BATES, OF LEHMAN, PENNSYLVANIA.

COMBINED ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 491,511, dated February 14, 1893.

Application filed November 7, 1891. Renewed September 1, 1892. Serial No. 444,762. (No model.)

To all whom it may concern:

Be it known that I, CHESTER M. BATES, a citizen of the United States of America, residing at Lehman, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Elevator and Carrier, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in combined elevators and carriers, more especially for hay, though it is equally adapted for other purposes, as for instance, to hoist or raise and carry stone, and other like matter, and it consists of the sundry combination of parts substantially as hereinafter disclosed and pointed out in the claims.

In the accompanying drawings,—Figure 1 is a side view of my improved combined cultivator and carrier. Fig. 2 is a sectional elevation of the same. Fig. 3 is a cross section thereof. Fig. 4 is a detached perspective view of the hoisting or elevating-rope or chain locking-device. Figs. 5 and 6 are modifications of the invention, as adapted for use in connection with a wooden or rigid track, designed to be arranged in the roof of a barn.

In the embodiment of my invention I employ a car or carriage A, having hung or journaled in a suitable manner between its side-pieces, two pulleys or sheaves a—a', one at its upper end, and the other at its lower front corner, and standing outward from its upper rear portion is a third pulley a^2 hung or journaled between outstanding brackets or supports b, having their inner ends bolted or secured to the side-pieces of said car or carriage. The side-pieces of the car or carriage, preferably of wood, are armed, where the axis or journal of the pulley a' passes through them with metal-plates c forming the bearings, proper for said axis or journal to remove wear at that point from said side-pieces.

B is the hoisting rope or chain locking-device, which comprises opposite curved-bars or levers b' pivoted within the car or carriage upon a common cross-bolt b^2, near their upper ends, and having said ends projecting a short distance from the car or carriage, and connected together thereat by a short cross-bolt b^3. The lower outwardly curved portions of the bars or levers b' are connected at their lower ends by a cross bolt $b^{\times}$ to the upper end of a pawl or dog, B′, hung upon the car or carriage, as at b^4, a short distance above, and in front of the pulley a'. Upon the cross-bolt $b^{\times}$, between the dog B′ and the levers b' are placed spacing sleeves or washers $b^{\times\times}$. The pawl or dog B′, is normally held out of contact with the hoisting rope or chain C, by a preferably coiled spring d, connected at its ends to the pawl or dog and to a cross-bolt, it may be, in the car or carriage respectively.

D is a lever fulcrumed, as at e, within the car or carriage, and having its outstanding, pipe-bowl like the flared end f, arranged directly in the same vertical plane with the outer end of the rope locking device B, and a short distance in front thereof, and having its inner or opposite end bifurcated, the prongs or branches formed thereby being connected by a cross bolt, as at g, to side parallel plates of a slide E, connected together at their lower ends, below the car or carriage, by a short cross piece or plate. The side plates of the slide E are let into and guided by, corresponding grooves $h^{\times}$, in the side-pieces of the car or carriage, and interposed between the bottom of the latter and the cross-piece or plate of said slide, is a spring h, held removably on a central stud h', on said cross-piece or plate, and normally holding said slide in its lowest position and consequently the outer end of the lever D, in its highest position.

C is the hoisting or elevating rope connecting in the usual way at one end with a hook i depending from a loop i' fast to the rear side of the car or carriage. The rope is then rove around the pulley of the block carrying the horse-hay fork (not shown) or other means for securing matter to be elevated or conveyed from place to place and around the pulley a' of the car or carriage, the opposite or free end of said rope or chain being drawn upon or having the power suitably applied thereto for effecting the raising or elevating of the fork loaded with hay.

G is the rope or cable track suitably stretched, and having one end connected to a barn in juxtaposition to the window or door, and the other end connected to a tripod, say, at a distant point in the field, said rope being passed or rove under and over the pulleys a and a^2, of the car or carriage, respect-

ively, and passed between the outer end b^3, of the locking device B, and the lever D. Upon the rope is fitted a tube H secured, it may be, thereto by the pointed thumb-screw j, passing therethrough with its screw-thread engaging said tube. The tube H has a tapered or conical-end or head k, and a short distance in rear thereof, a disk or plate l, whereby, as said end of said tube strikes the locking device B, and the lever D, at their outer ends, it will readily pass the latter, the movement thereof being limited by the disk or plate l, the car or carriage, with its suspended load, having reached its destination. The locking device B, thus acted upon by the headed end K, of the tube, H, will be so actuated that it will throw the pawl or dog B′, simultaneously into engagement with and cause it to grip the hoisting rope or chain, said rope having at that point a section of chain (not shown) spliced into it to prevent undue wear or cutting of the rope as would occur. The loaded fork will thus be held elevated until the fork suspending block is caused to press by requisitely pulling on the hoisting rope, forcibly against the slide E, thus lowering the lever D, when the headed end of the tube H, can be readily withdrawn from between the locking device B, and the lever D, permitting the automatic disengagement of the pawl B′ from the hoisting rope and the lowering and movement of the fork as may be desired.

The rope or means for propelling the car or carriage upon the rope or cable G, is connected to the yoke or loop m, for convenience connected to said car or carriage by means of the pivot-bolt e, of the lever D.

In the modification as disclosed in Figs. 5 and 6, I have shown a wooden track A′, instead of a rope or cable track and a conical ended arm A^2, also having a projection or stop $a^\times$, to substitute the conical-ended, and disk or plate armed, tube H, for engagement with the locking device B and lever D, as shown in the above described form of my invention. For suspending the car or carriage from the wooden track, I employ the hangers I, having edge-flanges $i^\times$ to embrace the sides of the car at the upper end and having pulleys i^2 at the upper ends of the arms i^3 i^3 projecting from the upper edge of the plate portions i^4 of the hanger, to travel upon said track.

The track A′, may be used for a long shed, it being supported centrally, in the apex of the roof, and the hay thus conveniently transported from end to end thereof, in providing for the stock or other animals.

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

1. The combination, with the carriage having the rope-locking device comprising the spring-held dog and the curved levers having their upper, connected ends projecting a short distance beyond the carriage, and the additional spring-pressed lever whose upper end stands in the same vertical plane with the said upper connected ends of the curved levers and projects a short distance beyond the same, of the track having applied or connected thereto the detaching device having a conical head and a short distance in rear of said conical head, a stop adapted, after said head has engaged the connection between the upper ends of the said curved levers, to engage the upper end of said spring-pressed lever, substantially as set forth.

2. The combination, with the carriage and its rope track and the rope-locking device having the connected-together ends of its levers projecting beyond the carriage, of the spring-pressed lever pivoted in said carriage and having its outer end adapted to engage said track and hold it close to the connection between the first named levers of said rope-locking device, substantially as specified.

3. The combination, with the carriage and its rope track and the rope-locking device having its connected ends projecting beyond said carriage, of the spring-pressed lever pivoted in said carriage and having its upper end of pipe-bowl like shape to receive and hold the rope-track close to the connected ends of said rope-locking device, substantially as described.

4. The combination, with the carriage the rope-track, the lever pivoted therein and having a pipe bowl like end engaging said track, the sliding bars connected to said lever and a spring interposed between their lower connecting piece and the bottom of the carriage and adapted to act upon said bars, of the rope-locking device comprising the spring-held dog pivoted near its engaging end to the carriage and the curved levers having a cross-bolt connection, at their lower ends, with the upper end of said dog, and their upper connected ends outstanding from the carriage, being pivoted near said latter ends to the carriage, and means for releasing said rope-locking device, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHESTER M. BATES.

Witnesses:
L. C. HOLLY,
GEORGE B. MAJOR.