

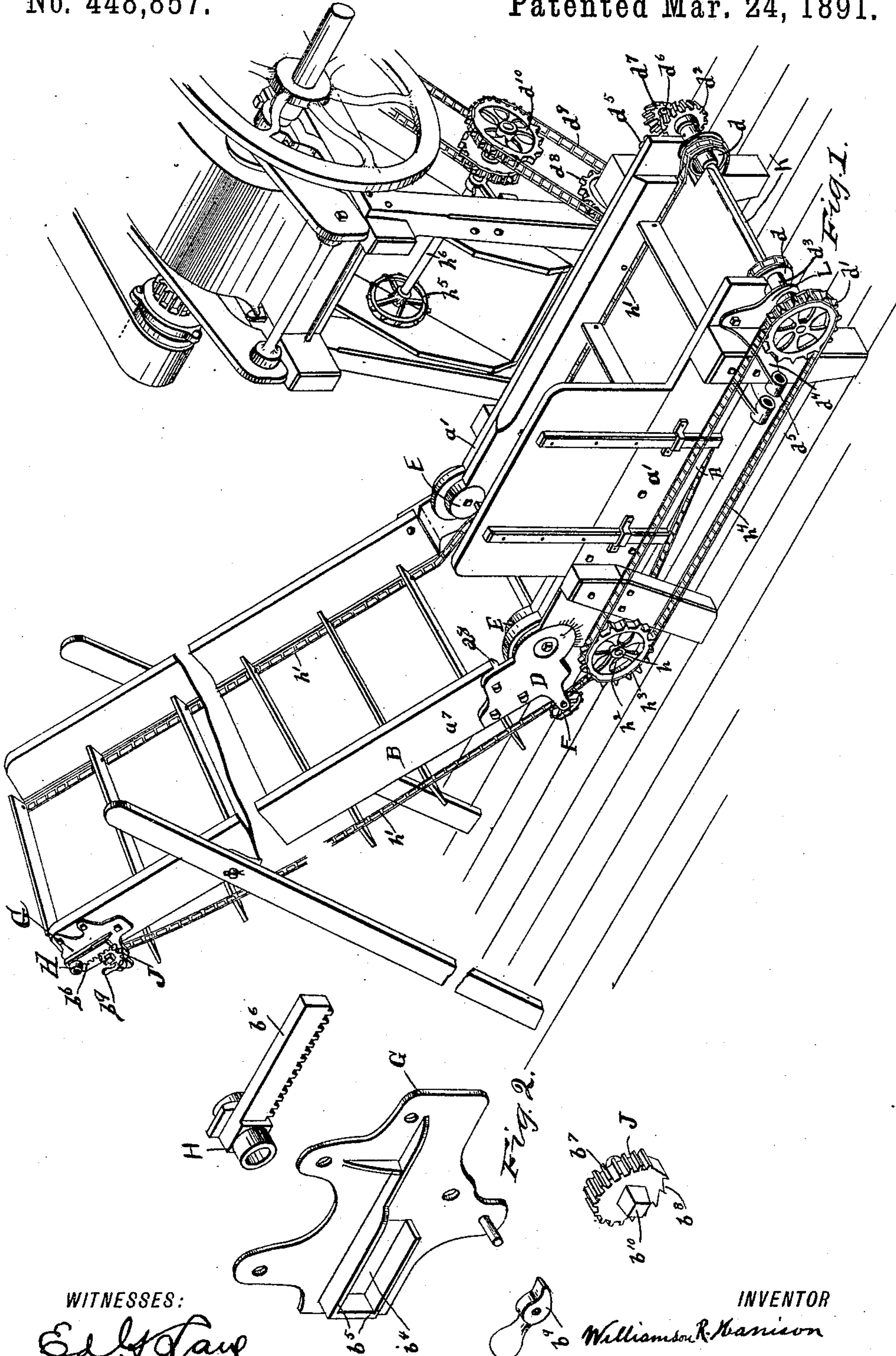
(No Model.)

2 Sheets—Sheet 1.

W. R. HARRISON.
FODDER CARRIER.

No. 448,857.

Patented Mar. 24, 1891.



WITNESSES:

Ed. J. Lane
Chas. A. Milley

INVENTOR

William R. Harrison

BY

W. H. Miller

ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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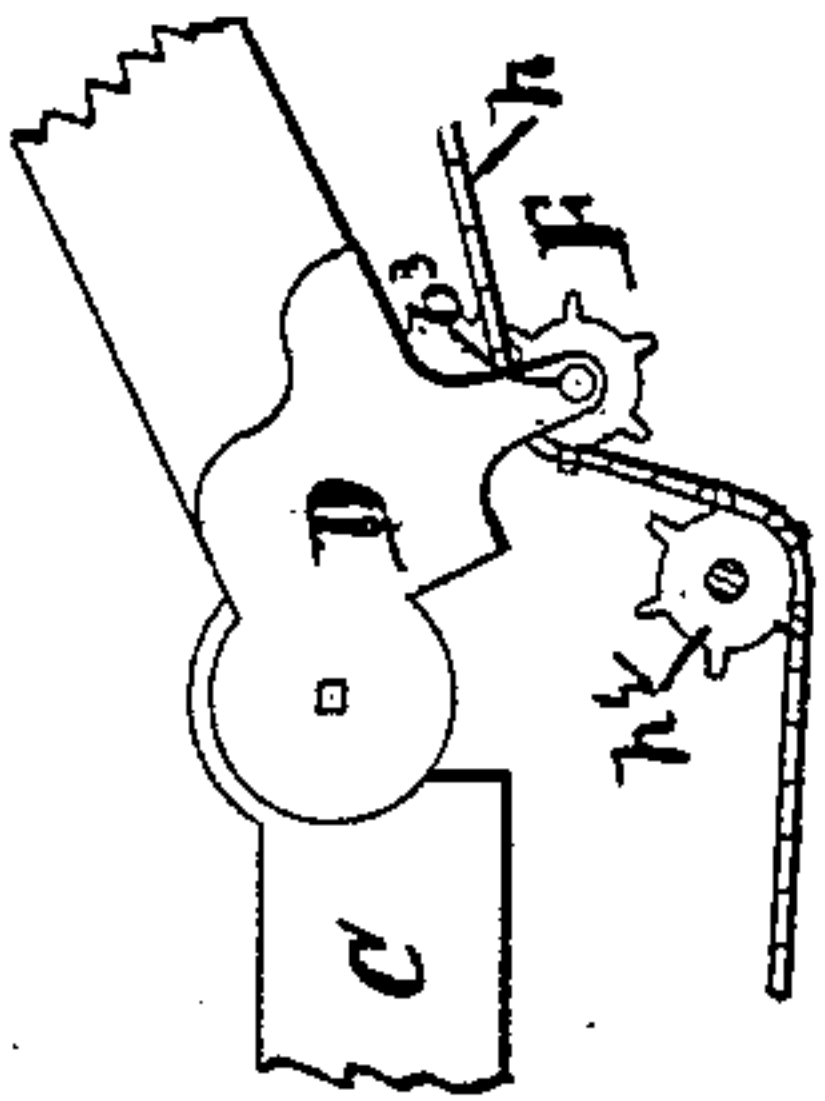


Fig. 5.

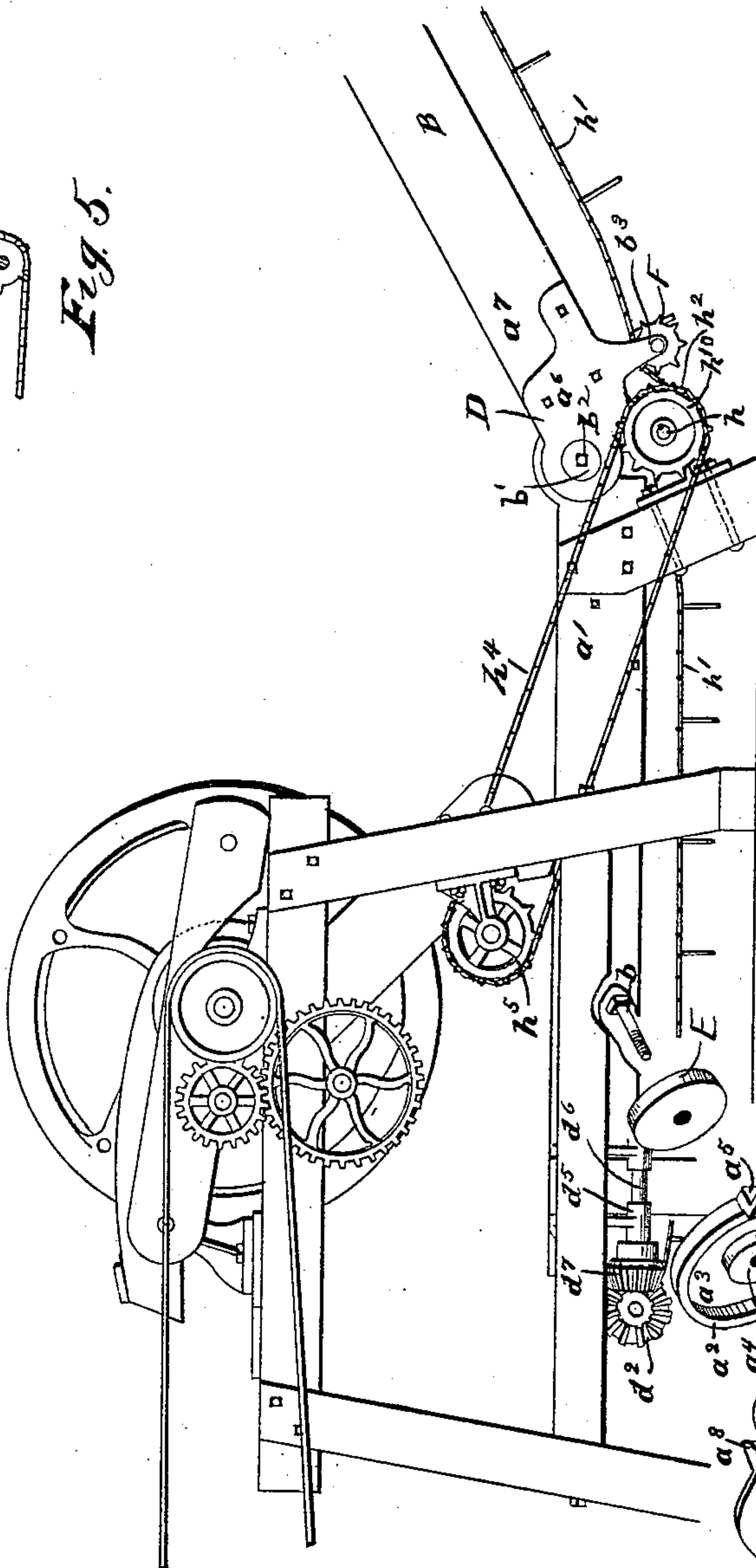


Fig. 3.

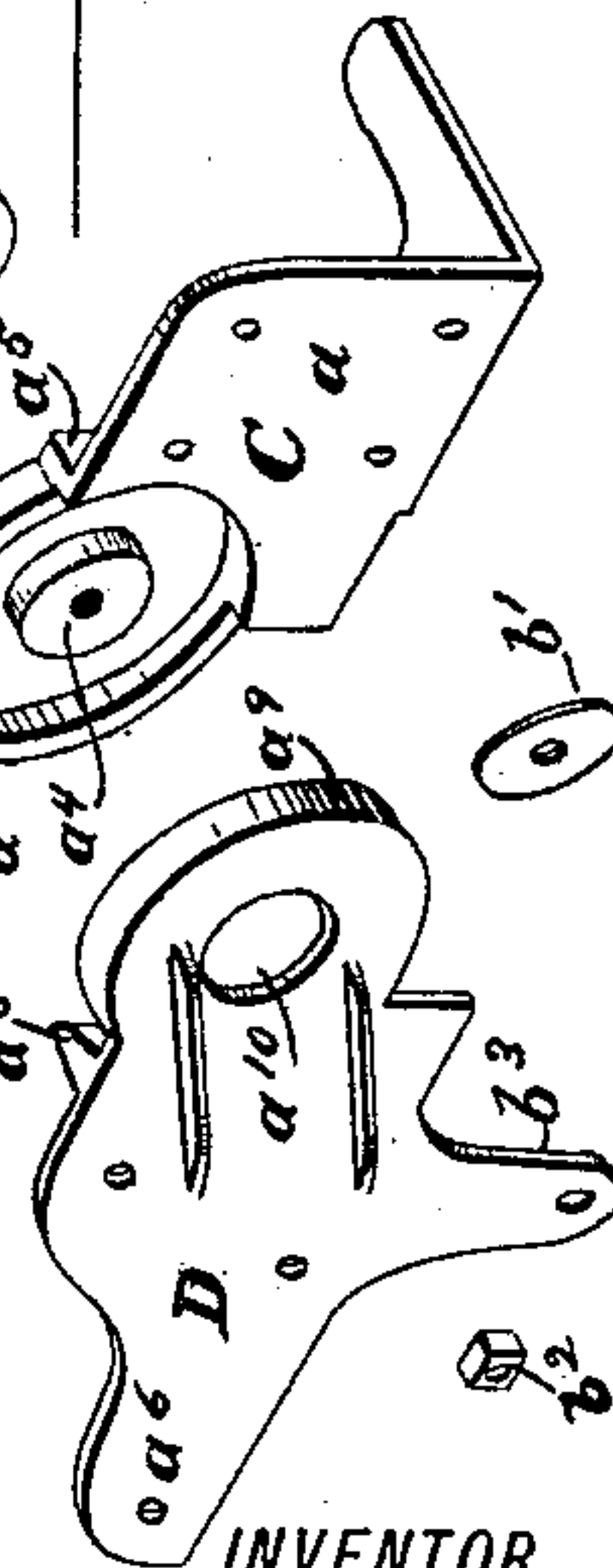


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAMSON R. HARRISON, OF CANTON, OHIO.

FODDER-CARRIER.

SPECIFICATION forming part of Letters Patent No. 448,857, dated March 24, 1891.

Application filed June 13, 1890. Serial No. 355,379. (No model.)

To all whom it may concern:

Be it known that I, WILLIAMSON R. HARRISON, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Fodder-Carriers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to improvements in carriers for fodder-cutters; and it consists in certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claims.

Figure 1 of the accompanying drawings is a perspective of a fodder cutter and carrier, illustrating my invention, with carrier set to carry the cut fodder to one side of the cutter. Fig. 2 is a similar view of detail comprising the parts of chain-tightener at the top of carrier. Fig. 3 is a side elevation of fodder cutter and carrier, showing the carrier attached to convey the cut fodder out in front of the cutter. Fig. 4 is a perspective of the hinge-plates, chain-roller, and hinge-pin; Fig. 5, a side view of the hinged portion of the two sections of the carrier.

The prime object of my invention is to provide a carrier that may be attached to the cutter so as to deliver the cut fodder at different points and be driven by a sprocket at the bottom portion of the carrier. The carrier is composed of two portions—a horizontal portion A and an elevating portion B. The parts A and B are secured together by the hinge-plates C D. The plate C is provided with a flange or plate portion a , by which it is secured to the side board a' , a circular flange a^2 , forming a circular recess a^3 , having a central boss a^4 , and a shoulder a^5 , the hinge-plate D having a side portion a^6 , by which it is secured to the side board a' , the end of the board resting against the shoulder a^8 , and a circular flange a^9 , adapted to pass into and turn in the recess a^3 , and an aperture a^{10} to embrace the boss a^4 , about which the plate D is rotated. To secure the parts together, the bolt b is passed through the roller E, plates C and D, washer b' , and secured by a threaded nut b^2 , thus forming a

very strong, light, and accurately-working hinge and a support for the chain-roller E. The hinge-plate D is provided with a downwardly-projected arm b^3 , at the lower end of which is secured a sprocket-roller F, as shown in Fig. 3.

At the upper end portion of the elevator B is provided a plate G, having an elongated aperture b^4 , about which is placed outwardly-projected flanges b^5 to form a support for the journal-box H, said box having a tooth-rack b^6 projected therefrom to engage a pinion J, having corresponding teeth b^7 about on half of its periphery, and about the remaining half ratchet-teeth b^8 , that engage a pawl b^9 . These parts are shown apart in Fig. 2 and assembled in Fig. 1.

To tighten the chain a wrench is placed on the hub b^{10} to turn the pinion to move the box H. The parts are used in duplicate, the pinion J mounted on a cross-shaft.

At the outer end of the horizontal portion A of the carrier is provided a cross-shaft K, having mounted thereon driving-chain rollers d , sprocket d' , and a bevel gear-wheel d^2 . On the end and side portion of the carrier-frame is placed a cast-metal plate L, having a journal-box portion d^3 for the support of the shaft K and an outwardly-projected arm d^4 , having at its end a journal-box d^5 , in which is supported a driving-shaft d^6 , having mounted on one of its ends a bevel-wheel d^7 to engage the wheel d^2 , and on the other end of said shaft is mounted a sprocket-wheel d^8 , that has a chain engagement with a similar wheel mounted on a shaft supported on the frame of the fodder-cutter. To reverse the direction of the carrier, the parts mentioned and described as d' , d^2 , d^6 , and d^7 may be transposed or placed on the other side of the carrier A, the chain d^9 placed about the sprocket h^5 . At the other end of the carrier is provided a cross-shaft h , on which is placed in the track of the carrier-chain h' small sprocket-wheels h^2 on the inside of the sprocket-wheels h^3 . About the sprocket-wheels d' and h^3 is placed a driving-chain h^4 , by which power is communicated to the shaft h , and sprockets h^2 , by which the carrier-chains h' are driven. When the carrier is placed as shown in Fig. 3, the chain h^4 is removed from the sprocket-

wheels d' and h^3 and placed upon a sprocket-wheel h^{10} , secured to the opposite end of the shaft h and is placed about the sprocket-wheel h^5 , mounted on a shaft h^6 on the fodder-cutter. The carrier while in this position obtains its operating-power from the sprocket h^5 , instead of from sprocket d^{10} , which transmits the power when the parts are in the position shown in Fig. 1. As shown in Fig. 3, I have located a portion of the carrier beneath the fodder-cutter to obtain compactness. I do not, however, limit myself to such location.

As heretofore constructed such carriers have been driven by a chain extending from a portion of the fodder-cutter to a suitable wheel or pulley at the outer end of the carrier, involving the cost of an additional chain as well as the maintenance thereof. Commendable efforts to drive the carrier by sprocket-wheels placed at the lower end of the carrier-frame have proved faulty, if not worthless, because of the slack of the chain allowing the chain to fall from the wheels. To obviate this difficulty is the prime object of this invention, as it will be apparent that the natural operation of the parts hereinbefore described will contribute to the desired end.

The carrier-frame being pivoted at h^6 —a point at one side of the center of the driving-shaft h —as a natural result when the outer end of the carrier is raised the chain will become tight and when lowered it will be so slack as to defeat the object of driving the elevator apron or slats, as the case may be. To obviate this difficulty, the arm b^3 , with its sprocket-roller F, is provided, which, when the elevator is raised, will swing out, as shown in Figs. 1, 3, and 5, to give out chain, and when the carrier is lowered the arm b^3 and sprocket-roller F will be swung into the position shown in Fig. 5, the operation of which is to take up and pay out the slack of the carrier-chain h'

automatically to adapt the elevator-chain to be used to drive and at the same time to carry the elevator slats or brackets.

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

1. In a fodder-carrier, the hinge-plates C and D, the former having the flange a^2 , recess a^3 , central boss a^4 , and shoulder a^5 , and the latter having the flange a^9 , perforation a^{10} , and arm b^3 , the sprocket-wheel F, and roller E, substantially as described, and for the purpose set forth.

2. In combination with the hinge portion of a two-part fodder-carrier, the cross-shaft h , having mounted thereon sprocket-wheels h^2 and h^3 , roller E, chain h' , arm b^3 , and sprocket-wheel F, by which the slack of the chain h' may be taken up and let out as the outer end of the carrier is raised or lowered, substantially as described.

3. The combination, with the carrier, of the sprocket-wheel d^8 , mounted on the shaft d^6 , placed at the side of the carrier, gear-wheel d^7 , mounted on said shaft d^6 , shaft K, transverse to the length of the said carrier, which shaft has mounted thereon a gear-wheel d^2 to engage the wheel d^7 , rollers d , and a sprocket-wheel d' , a cross-shaft h , having sprockets h^2 mounted thereon interjacent its ends to engage the chain h' , a sprocket-wheel h^3 , mounted on the end of said shaft, a chain h^4 to engage the wheels d' and h^3 , whereby power may be transmitted about the carrier-frame to a point between the ends of the carrier to engage the carrier-chain h' to drive the carrier, substantially as described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 5th day of June, A. D. 1890.

WILLIAMSON R. HARRISON.

Witnesses:

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CHAS. R. MILLER.