

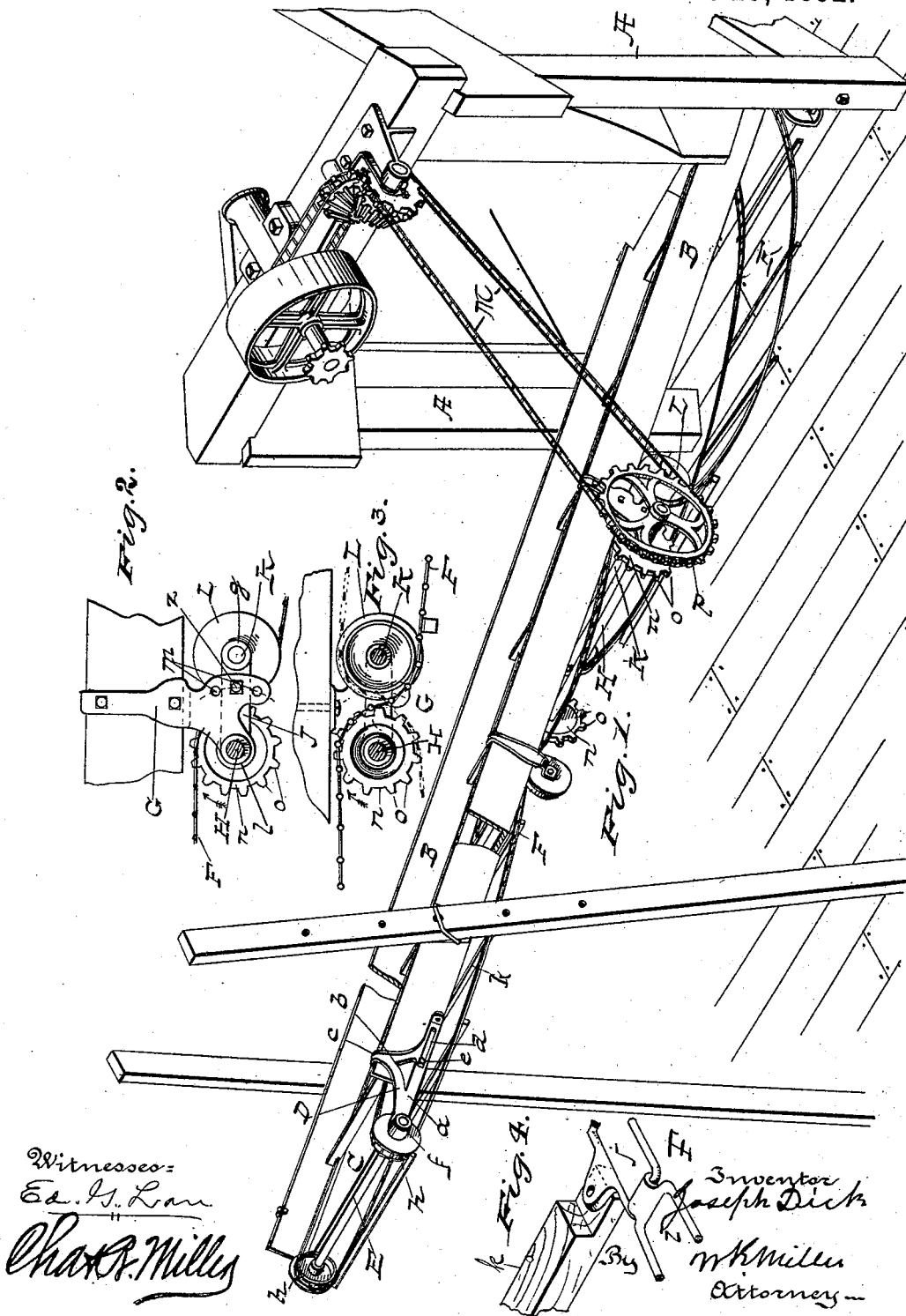
(No Model.)

J. DICK.

DRIVING MECHANISM FOR ENDLESS APRON CARRIERS.

No. 471,743.

Patented Mar. 29, 1892.



UNITED STATES PATENT OFFICE.

JOSEPH DICK, OF CANTON, OHIO.

DRIVING MECHANISM FOR ENDLESS-APRON CARRIERS.

SPECIFICATION forming part of Letters Patent No. 471,743, dated March 29, 1892.

Application filed July 24, 1891. Serial No. 400,531. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DICK, 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 Driving Mechanism for Endless-Apron Carriers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in driving mechanism for endless-apron carriers; and it consists in providing means whereby the apron may be driven by the chains of which it is constructed, said means to be located interjacent the ends of the carrier or apron supporting frame.

With these ends in view my invention consists of certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claims.

Figure 1 is a view in perspective of the front end of a fodder-cutter, showing a carrier illustrating my invention in operative position. Fig. 2 is a side elevation of a fragment of the carrier, showing the front side of the hanger and driving device; Fig. 3, an inside or rear view of the same parts; and Fig. 4, a perspective of a fragment of apron, showing a portion of the chain and cross-slats.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

A represents the front portion of the frame of a well-known fodder-cutter; B, the side boards of the carrier-frame, and C the bottom. These parts are framed together in the usual way of framing such structures. At the upper end portion of the carrier-frame, secured to the side boards B, is provided brackets D, having a body portion *a* longer than the width of the bracket, an arm *b* projecting upwardly from the side of the body *a* and bent over and down upon the inside of the side board B, thus forming a supporting-hook *c* for the bracket, and in the body portion *a* is provided an elongated aperture *d*, in which is placed a tightening-bolt *e*, by which the bracket D may be secured to the side board in desired adjustment longitudinally thereto. At the outer end of the bracket is provided journal-boxes *f*, in which is supported a cross-shaft E, on

which is mounted rollers *h*, that support the apron-chains F. A similar shaft is supported in journal-boxes at the lower end of the carrier-frame, said shaft having rollers to support the apron-chain in a manner similar to that shown at the upper end of the frame.

The apron is constructed, substantially as shown in Figs. 1 and 4, of rectangle links *i* and *j*, the latter having a side wing, to which the end of the cross-slats *k* are secured. The winged links *j* and slats *k* may be placed at desired intervals in the structure.

Heretofore it has been thought impractical to drive the apron by the chains of which it is constructed in any other manner than by a chain extending from the source of power to a sprocket at the outer upper end of the carrier, thus in many instances involving the use of a chain from sixty to eighty feet long, so long and heavy as to render their use impractical in every way, to say nothing about the additional cost.

My invention relates particularly to the means, hereinafter described, by which the carrier-apron may be driven by the side chains F used in its construction, and thereby greatly reduce the initial cost of the machine as well as the cost of maintenance.

At a distance above the lower end of the carrier is provided and secured to the side boards B a hanger G, having at its lower portion a journal-box *l* and a series of perforations *m*. In the journal-box *l* is placed a cross-shaft H, having mounted thereon wheels *n*, having peripheral sprockets *o*, that engage the links *i* and *j* of the chain F, and on the end of shaft H is mounted a sprocket-wheel *p*, having a chain connection with the driving power. On the sleeve portion of the journal-box *l*, inside the arm G, is placed a swinging arm J, having at its free end a journal-box *g*, and a perforation to correspond with the perforations *m* in the hanger G. In the journal-boxes *g* is placed a cross-shaft K, having mounted thereon flange-wheels L, the tread of which is in line with the chain F.

In operation the rollers L are dropped down on the chain F and secured in desired adjustment by a bolt or pin *z*, passed through the perforation *m* in the hanger G. The wheel *n* rotating in the direction shown by the arrow, the driving portion of the chain F will

be kept tight, and the slack of the chain thrown below the roller L and the driving-wheel *n*. It will be noticed that by this arrangement a short chain, as M, may be used
 5 as a driver regardless of the length of the carrier.

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

10 1. The combination, with the sides B of a carrier-frame, of the shaft E, rollers *h*, chain F, and bracket D, said bracket having in its body portion an elongated aperture *d* and an arm *b*, the upper end of which is bent in the
 15 form of a hook *c* to embrace the upper edge of the sides, substantially as shown and described, and for the purpose set forth.

2. The combination, with the supporting-frame of an endless-apron carrier having
 20 chains F at its sides, of the hangers G interjacent the ends of the frame to support a cross-shaft H, sprocket-wheels *n*, sprocket-wheel *p*, and chain M, arms J, pivotally secured to said hangers, the pivotal center of
 25 which is the center of the shaft H, a shaft K,

journaled at the free end of said arms, rollers L, mounted on said shaft, and means for securing said parts in desired adjustment about the shaft H, whereby the chain F will be held in engagement with the wheels *n*, substantially as described. 30

3. The combination, with the supporting-frame of an endless-apron carrier and the carrier-chains F, of a hanger G, secured to said frame interjacent its ends, said hanger having a sleeve portion in which is formed a
 35 journal-box *l*, a driving-shaft H, supported in said box *l*, arms J, pivoted about said sleeve, shaft K, journaled in the free ends of said arms, perforations *m* in said hanger, and a
 40 pin *z*, by which said parts may be held in desired adjustment, substantially as described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 21st day of July, A. D. 1891.

JOSEPH DICK.

Witnesses:

W. K. MILLER,
 CHAS. R. MILLER.