

No. 757,156.

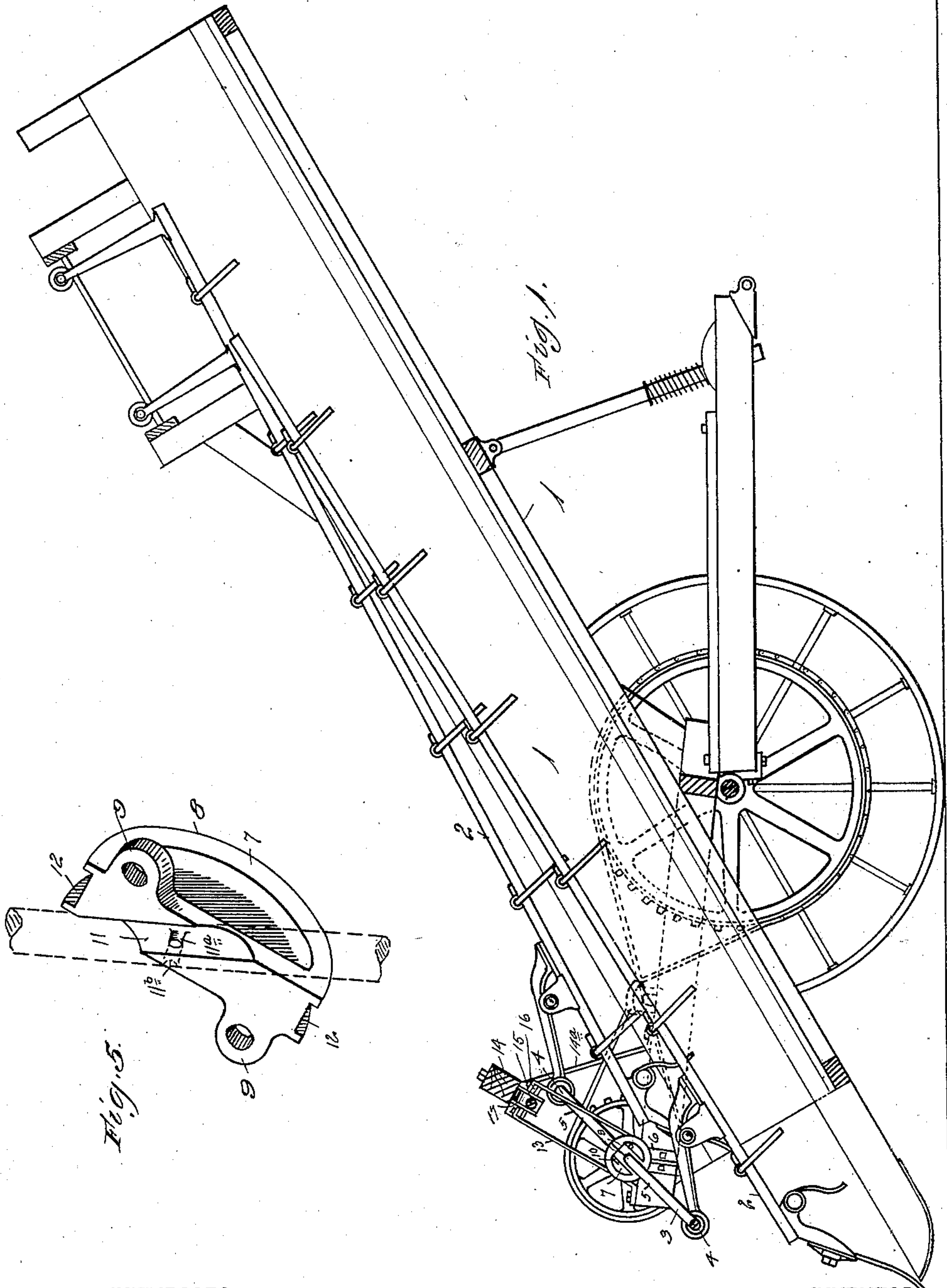
PATENTED APR. 12, 1904.

J. H. THOMAS.
HAY LOADER.

APPLICATION FILED NOV. 12, 1900.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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D. H. Schaefer

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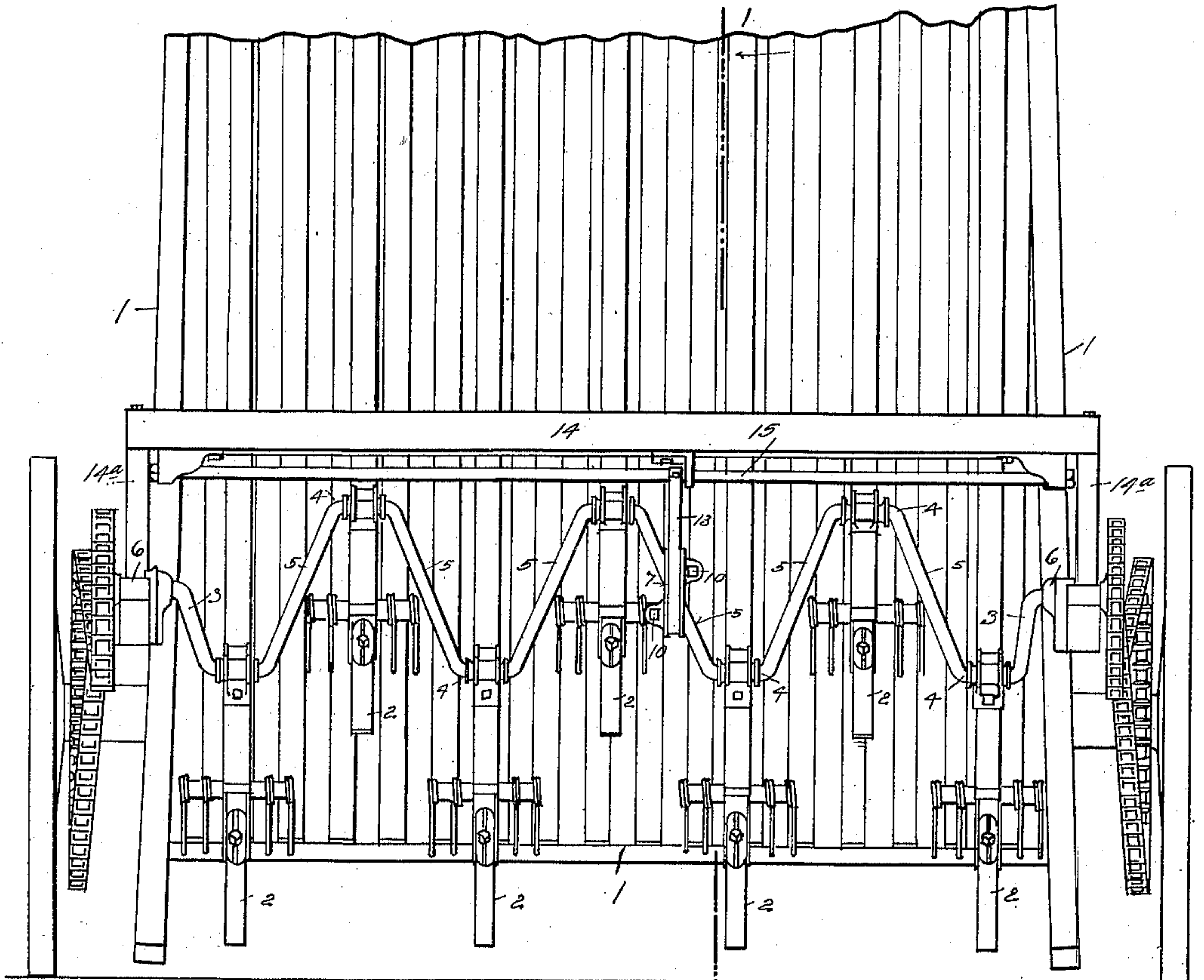


Fig. 2

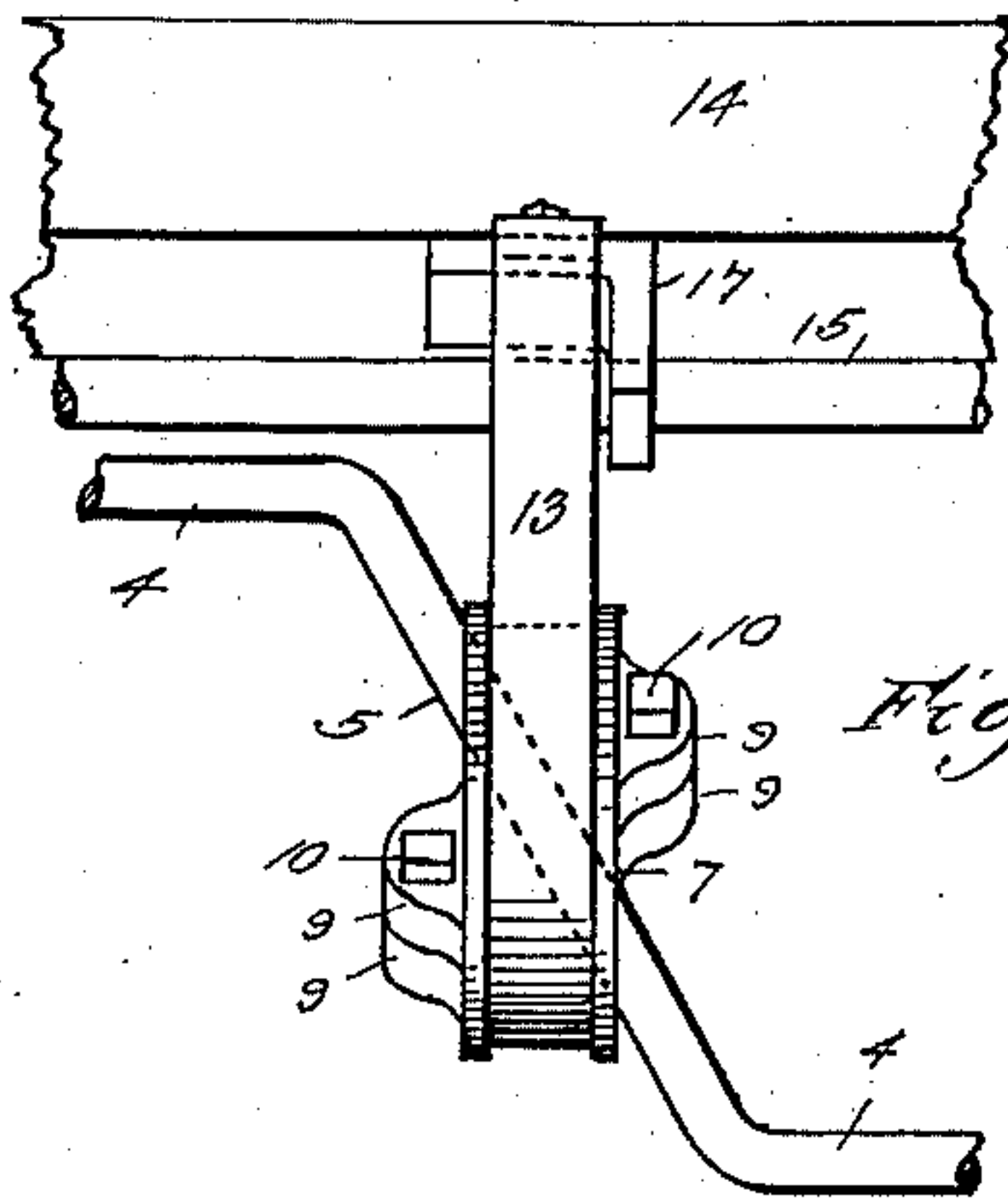


Fig. 3.

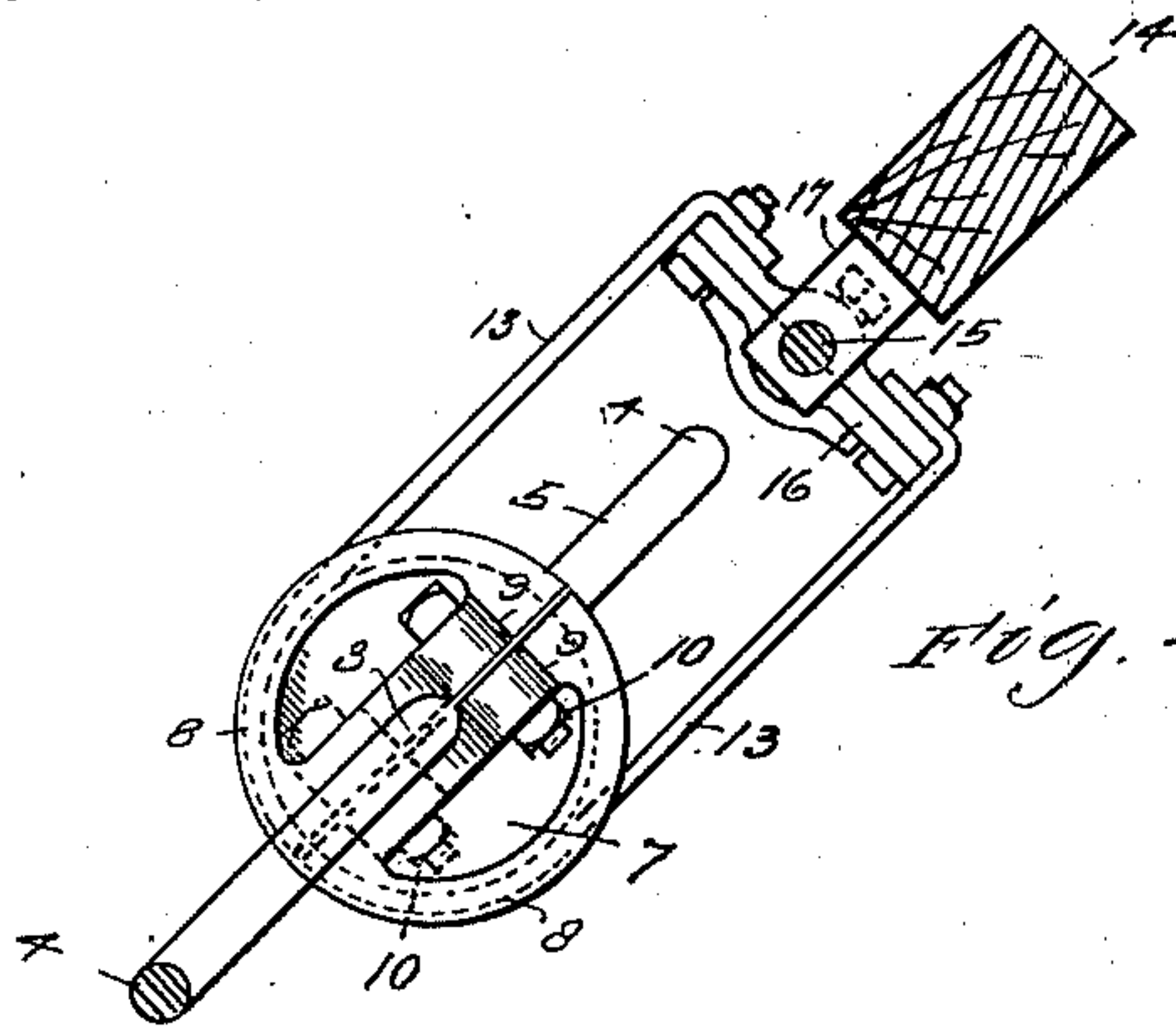


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN H. THOMAS, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE THOMAS MANUFACTURING COMPANY, OF SPRINGFIELD, OHIO.

HAY-LOADER.

SPECIFICATION forming part of Letters Patent No. 757,156, dated April 12, 1904.

Application filed November 12, 1900. Serial No. 36,207. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. THOMAS, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Hay-Loaders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to hay-loaders, and more particularly to that class in which a transverse crank-shaft is employed to actuate the forks by means of which the hay is transferred from the bottom to the top of the loader. This crank-shaft is of considerable length and is bent to form a plurality of cranks connected by diagonal or inclined arms. Owing to its length and the strains brought upon it, this shaft is liable to bend or sag, more particularly at its middle.

It is the object of my present invention to overcome this difficulty and provide a simple and efficient support for that portion of the shaft between its end bearings, thus rendering practicable the use of a single shaft extending entirely across the machine and without necessitating the formation of a special bend to receive the support.

To these ends my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a hay-loader embodying my invention in one form, taken on the line 1 1 of Fig. 2. Fig. 2 is an elevation of the same. Fig. 3 is an enlarged detail view, in front elevation, of a portion of the device. Fig. 4 is a side elevation of the structure shown in Fig. 3; and Fig. 5 is a detail perspective view, on a still larger scale, of one-half of the bearing-block or pulley detached.

In the said drawings, 1 indicates the body or frame of the machine, mounted in the usual manner and having the reciprocating forks 2 actuated by means of the crank-shaft 3. This crank-shaft is bent to form a plurality of cranks 4, connected by diagonal portions or inclined arms 5, and extends contin-

uously across the machine, its end portions 50 being supported in bearings 6 on the frame of the machine. On one of the arms 5 of the crank-shaft, preferably as near the center of the shaft as possible, I mount a bearing-block or pulley 7. This block is made sectional, so as to facilitate its application to the crank-shaft, and I prefer to construct the same in two separate halves, as shown more particularly in Fig. 5. In this construction the sections are divided diametrically, each half or section 8 being provided with lugs 9, apertured to receive bolts 10, which serve to secure the sections together upon the crank-shaft. The meeting faces of the sections are provided with diagonal grooves 11 to adapt them to fit upon the crank-shaft, and the block or pulley as a whole is so located upon the crank-shaft as to have its center of rotation coincident with the center of rotation of the shaft. One of the pulley-sections is provided with a projecting lug located in the diagonal groove 11, as shown at 11^a in Fig. 5, and the shaft is provided with a corresponding recess 11^b to receive said lug, and thereby prevent the pulley from slipping on the shaft when the parts are assembled. The periphery of the pulley is provided with a groove 12, in which fits a strap 13, by means of which the bearing-block is suspended from a cross piece or brace 14, mounted on the frame of the machine. This cross piece or brace may be of any approved construction and is supported at its ends upon brackets 14^a from the sides of the bed-frame, extending across the machine parallel with the crank-shaft and preferably in a position above and in advance of said shaft. This cross-piece is preferably provided with a truss-rod 15, on which is pivotally mounted a clip 16, to which the ends of the strap 13 are secured, and said clip is mounted on the truss-rod immediately adjacent to a strut or bracket 17, which is interposed between the cross-piece 14 and truss-rod 15. It will be noted that the crank-shaft is thus supported at or near its center, so as to prevent sagging at that point, and that a single crank-shaft may be employed extending entirely across the machine and construct-

ed without any special bend to form a bearing connection. The pivotal connection of the intermediate support with its point of suspension allows it to accommodate itself to
 5 any variations in the alinement of the shaft and avoids any binding between the strap and pulley.

It is obvious that the construction shown and described may be duplicated and that a
 10 number of intermediate supports may be employed, if deemed necessary or desirable. It is also obvious that various modifications of the specific embodiment of my invention hereinbefore set forth may be made without de-
 15 parting from the principle of my invention. For instance, the truss-rod and the pivotal connection of the strap with its support, or either of these features, may be omitted. I therefore do not wish to be understood as lim-
 2 iting myself to the precise details of construction hereinbefore described, and shown in the accompanying drawings.

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

1. In a hay-loader, a crank-shaft, with a series of cranks thereon, and a sectional pulley secured to the medial portion of one of said cranks at the axis of rotation of said shaft,
 30 and a bearing for said pulley supported in the frame, substantially as described.

2. In a hay-loader, the combination, with a frame, of a crank-shaft provided with a plurality of cranks and supported at its ends in
 35 bearings on the frame, a bearing-block or pulley secured to the intermediate portion of the crank-shaft with its center of rotation coincident with that of said shaft, a cross piece or brace mounted on the frame, and a strap con-
 40 nected with said cross-piece and passing around the bearing-block, substantially as described.

3. In a hay-loader, the combination, with a

frame, of a crank-shaft provided with a plurality of cranks and supported at its ends in
 45 bearings on the frame, a bearing-block or pulley secured to the intermediate portion of the crank-shaft with its center of rotation coincident with that of said shaft, a cross piece or brace mounted on the frame, and a strap piv-
 50 otally connected with said cross-piece and passing around the bearing-block, substantially as described.

4. In a hay-loader, the combination, with a frame, of a crank-shaft supported at its ends
 55 in bearings on said frame and having its intermediate portion bent to form a plurality of cranks connected by diagonal arms, a bearing-block diametrically divided and having diagonal
 60 grooves in its meeting faces, connecting lugs and bolts and a grooved periphery, said block being mounted on one of the diagonal arms of the crank-shaft with its center of ro-
 65 tation coincident with that of the shaft, a cross-piece mounted on the frame, and a strap connected with said cross-piece and fitting the grooved periphery of the bearing-block, sub-
 70 stantially as described.

5. In a hay-loader, the combination, with a frame, of a crank-shaft provided with a plu-
 75 rality of cranks and supported at its ends in bearings on said frame, a bearing-block secured to the intermediate portion of the crank-shaft with its center of rotation coincident with that of said shaft, a cross-piece mounted
 80 on the frame and comprising a body portion and a truss-rod, and a strap pivotally mounted on the truss-rod and passing around the bearing-block, substantially as described.

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

JOHN H. THOMAS.

Witnesses:

E. O. HAGAN,
 IRVINE MILLER.