

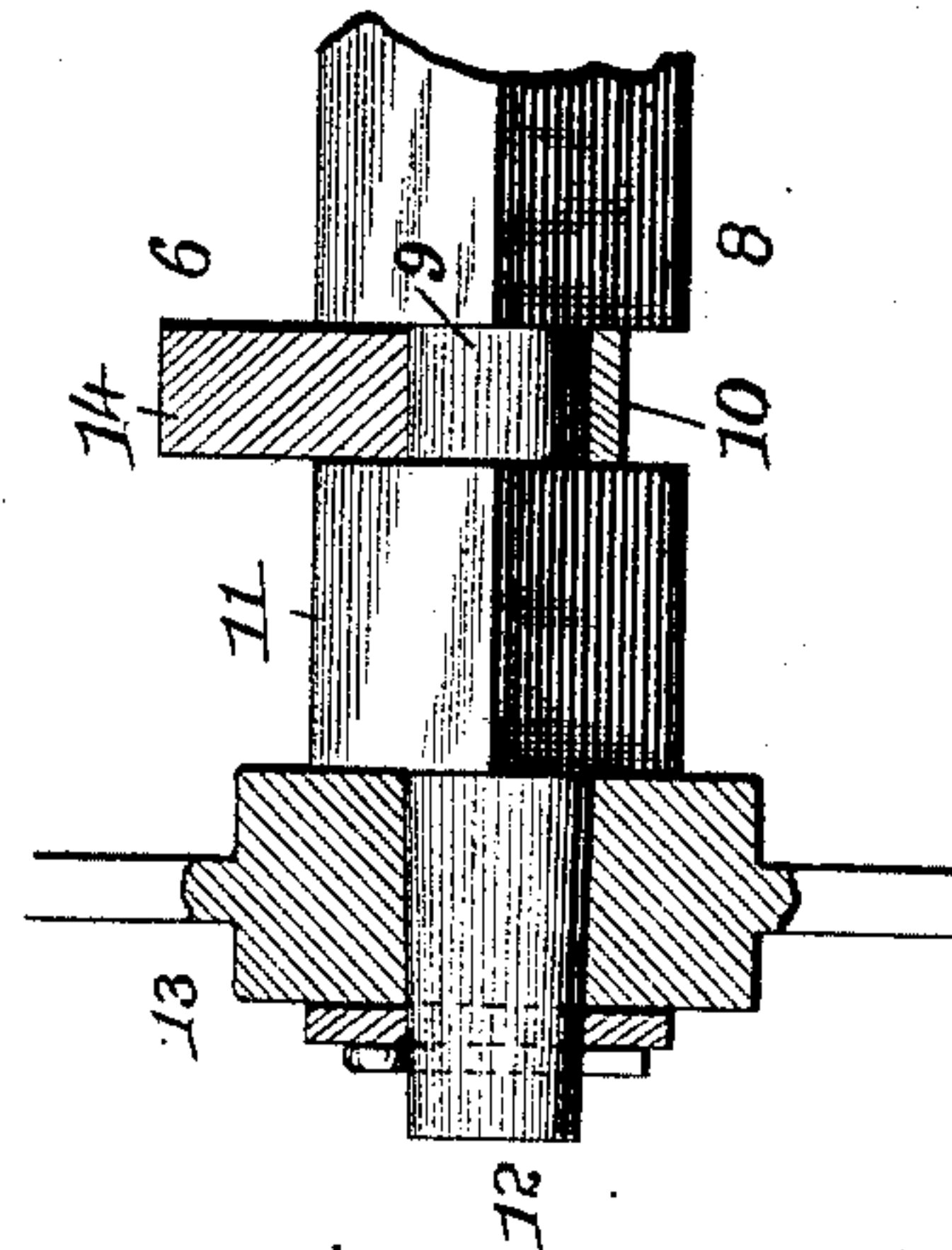
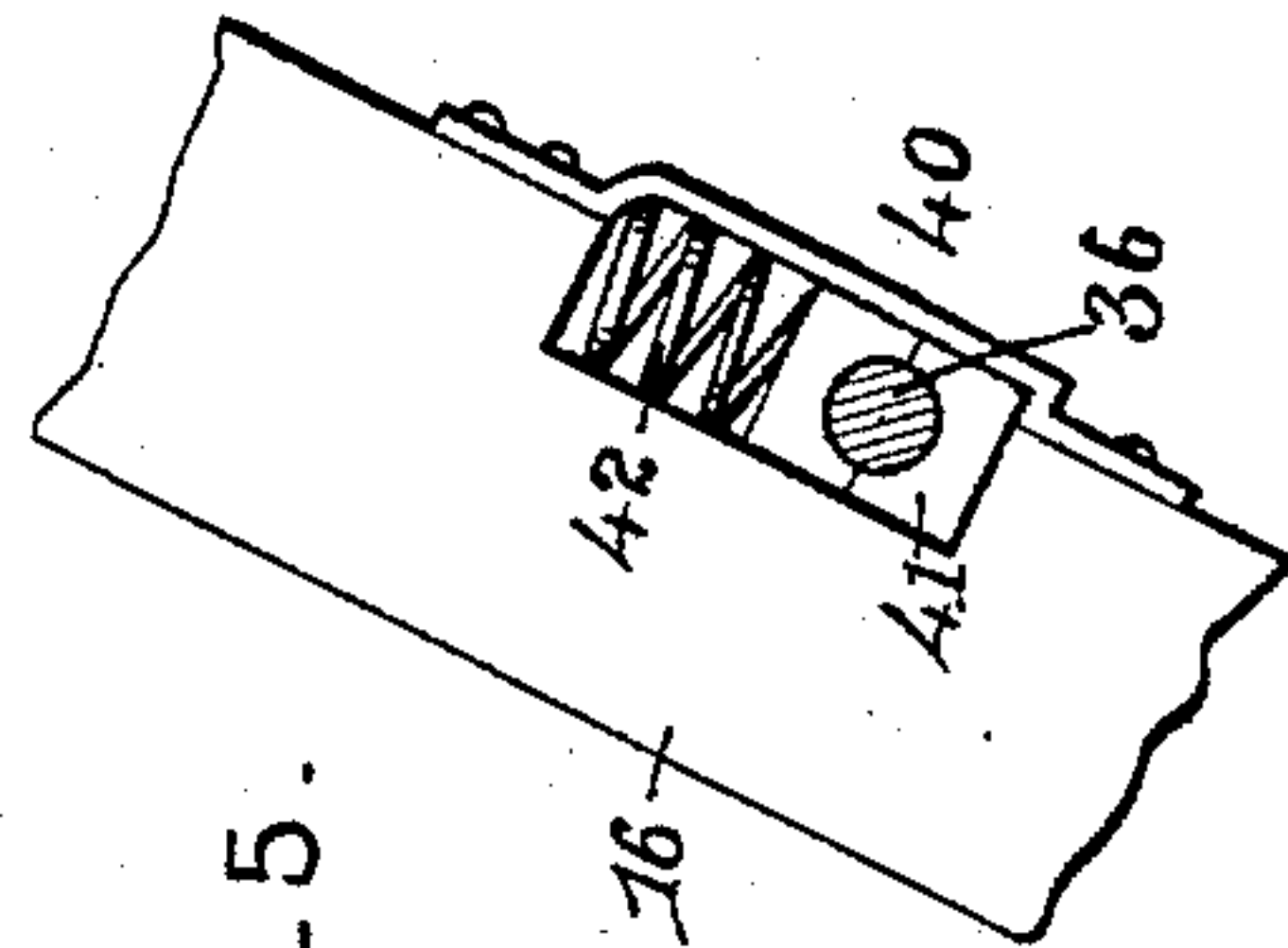
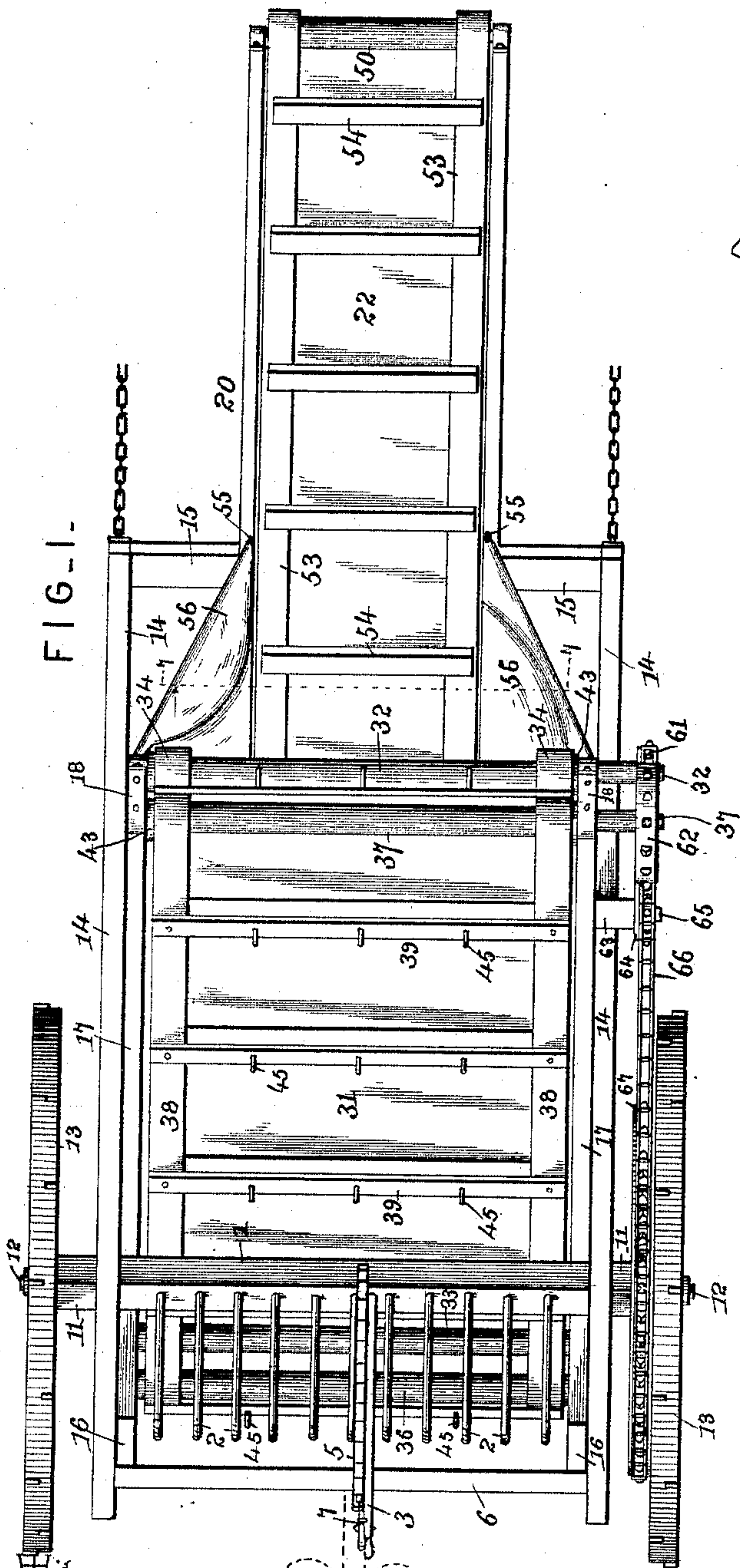
(No Model.)

3 Sheets—Sheet 1.

J. L. McCREARY.
HAY LOADER.

No. 485,769.

Patented Nov. 8, 1892.



Witnesses

Jas. H. McCreary

N. J. Collamer

By this Attorneys,

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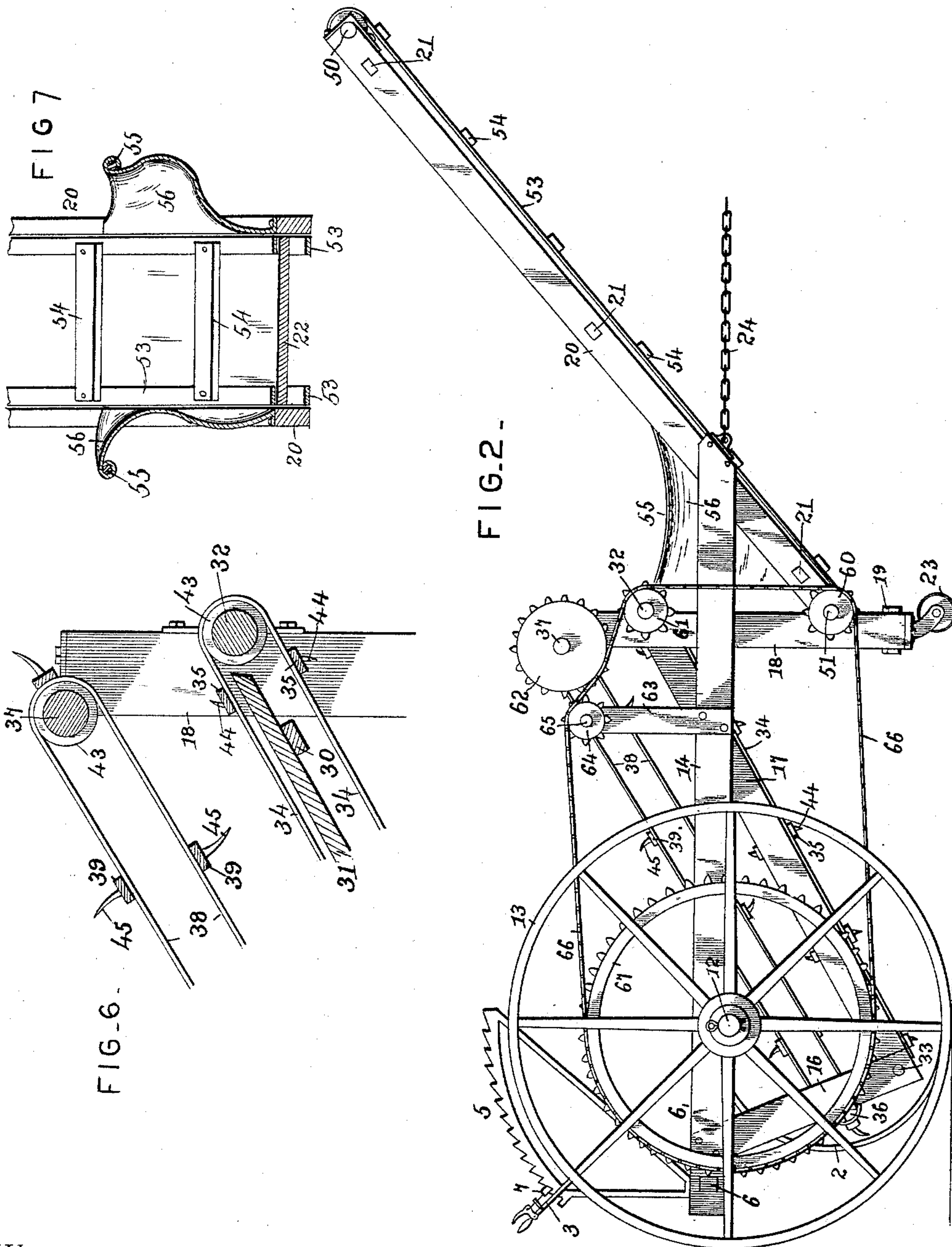
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Witnesses

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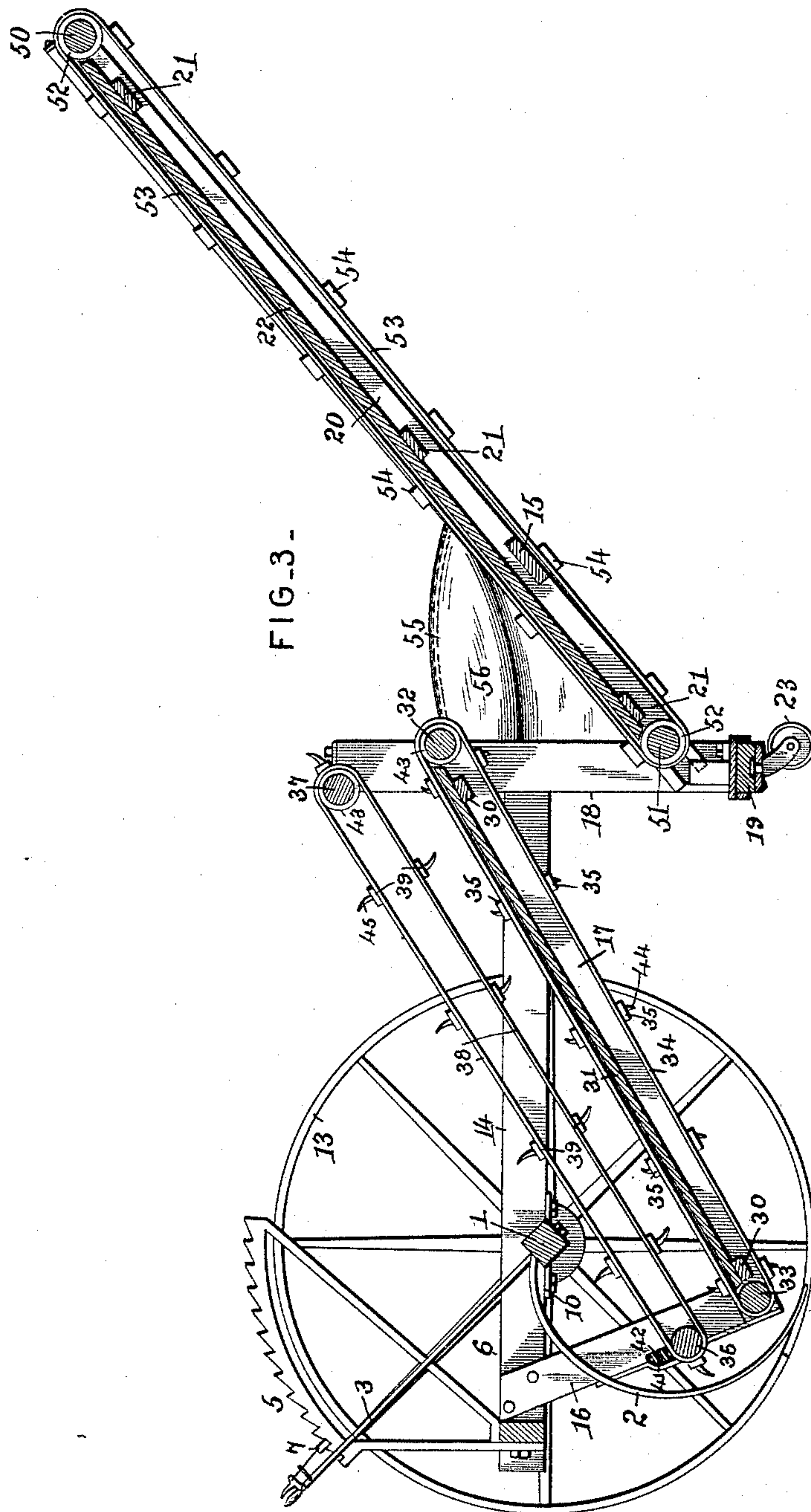
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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN L. MCCREARY, OF LAMAR, MISSOURI.

HAY-LOADER.

SPECIFICATION forming part of Letters Patent No. 485,769, dated November 8, 1892.

Application filed October 20, 1891. Serial No. 409,313. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. MCCREARY, a citizen of the United States, residing at Lamar, in the county of Barton and State of Missouri, have invented a new and useful Hay-Loader, of which the following is a specification.

This invention relates to hay-loaders, and more especially to that class thereof known as "endless carrier;" and the object of the same is to effect certain improvements in devices of this character.

To this end the invention consists in the construction hereinafter more fully described and claimed, and as illustrated on the three sheets of drawings, wherein—

Figure 1 is a plan view of this improved device. Fig. 2 is a right-side elevation. Fig. 3 is a central longitudinal section. Fig. 4 is a section through one end of the axle, its bearing in the frame, and the hub of the supporting-wheel. Fig. 5 is an enlarged vertical section through one of the bearings of the rear roller of the upper apron. Fig. 6 is a cross-section through the upper rollers of the two aprons. Fig. 7 is a transverse section on the line 7 7 of Fig. 2.

Referring to the said drawings, 1 is the main axle, which, in the present instance, also forms the rake-head since the rake-teeth 2 depend from this axle, as seen in Fig. 3.

3 is a bar or lever projecting rearward from the axle, turned up, and standing alongside the driver's seat 4, (if one be used,) a rack-bar 5 rising from the frame 6 alongside this lever and being engaged by the catch 7 thereon, as will be clear. The ends 8 of the axle have annular grooves 9, as seen in Fig. 4, which engage bearings 10, preferably located on the under sides of the side bars of said frame and outside the enlargements or collars 11. The extremities of the axle are rounded, as at 12, and the supporting-wheels 13 are journaled thereon. By this construction the axle is allowed to oscillate in its bearings in the frame and in the hubs of the wheel, and hence it may be turned by the lever to raise the teeth of the rake when desired. The said frame 6 is of any suitable construction; but, preferably, about as shown in the drawings—that is to say, its side bars

14 extend forward and are connected by a front bar 15. Depending from the rear ends of the side bars are the rear bars 16, which incline forward, and from their lower ends inclined bars 17 rise past the side bars, as seen, vertical bars 18 depending in turn from their front ends and being connected by a lower cross-bar 19. From the latter rises an auxiliary frame or "framework" 20, which rests on the front cross-bar 15 and whose side bars are connected by cross-strips 21, which support a bottom board 22. The various portions of this frame are connected and otherwise braced, as may be necessary and according to the fancy of the manufacturer. A caster-wheel 23 beneath the lower cross-bar 19 supports the weight of the front end of the machine, though the machine is to be connected, as by chains 24, with the rear end of a hay-wagon (not shown) and in order that the hay will be delivered into said wagon, as is usual in machines of this character.

Mounted on strips 30, which connect the inclined bars 17, is a table 31, across whose upper and lower ends stand rollers 32 and 33, whose shafts are suitably journaled in the frame, and over these rollers passes an endless apron, preferably composed of belts 34 at the ends of the rollers, connected by slats 35 on the outer faces of the belts. The lower side of this apron passes beneath the strips 30, while its upper side travels upon the face of the table 31.

Journaled in bearings in the rear bars 16 and in the vertical bars 18 are the shafts of rollers 36 and 37, the latter (37) being somewhat higher above the roller 32 than is the rear roller 36 above its roller 33, and over these rollers 36 and 37 passes an upper endless apron, preferably comprising belts 38, at the ends of the rollers, connected by slats 39 on the outer faces of the belts. The bearings for the roller 36 are vertically elongated, as seen in Fig. 5, each shaft of the roller standing in a box 41 within the slotted bearing and borne normally downward therein by a spring 42. Each of the front rollers 32 and 37 preferably has an enlargement or pulley 43 just inside each of its bearings, as seen in Fig. 6, and the belts of the aprons pass over these

pulleys, thus giving greater space between the centers of the rollers for the passage of the hay.

44 are curved teeth in the slats 35 of the lower apron, and 45 are longer curved teeth in the slats 39 of the upper apron, all these teeth moving with their points first.

Journalled across the ends of the table 22 in the framework are rollers 50 and 51, preferably also having enlargements or pulleys 52 just inside their bearings, and over these pulleys pass belts 53, connected by slats 54 and constituting a delivery-apron, which, as seen in Fig. 1, is about half the width of the other apron.

55 are braces connecting the framework 20 with the vertical bars 18, and 56 are plates supported by these braces, secured at their lower edges to the framework and forming guides about as shown.

On one end of the shaft of the roller 51 is a sprocket-wheel 60. Outside the bearing for this shaft and in alignment therewith is a small sprocket-wheel 61 on the shaft of the roller 32 and a larger sprocket-wheel 62 on the shaft of the roller 37.

63 is an upright rising from the frame, and 64 is an idle-wheel mounted on a stub-shaft 65 in this upright. An endless chain belt 66 passes over a large sprocket-ring 67, secured to one of the supporting-wheels 13, as seen in Fig. 2, and extends thence over the idle-wheel 64, under the large sprocket 62, over the smaller sprocket 61, around the lower sprocket 60, and back to the point of starting, and by this means the proper motion is imparted to the several aprons—that is, the delivery-apron moves upward over its table, as does the lower apron over its table, and the upper apron moves in an opposite direction to the lower apron, so that their adjacent sides travel in the same direction; but the upper apron moves more slowly than the lower, owing to the difference in the sizes of the wheels 61 and 62.

The operation of this machine will be clearly understood by reference to the above description when taken in connection with the drawings. The hay which is taken up by the rake-teeth is caught by the two aprons and carried up between them, moving in a direction transverse to the length of the grain. When it is dropped from the upper ends of these aprons, it falls onto the plates 56, as will be clear. These plates are so curved—the one being raised and the other depressed—that the hay is turned by the plates from its position transverse to the machine to a position longitudinal thereof—that is, so that it will lie longitudinally of the framework. As it falls on the latter between the inner edges of the plates the slats 54 catch the grain and carry it up to the hay-wagon, as will be clear. In order that the endless belt 34 may successfully take up and elevate the hay, it is made to travel faster than its companion belt 38. The said belt 38, mov-

ing a little slower than the belt 34 and having longer teeth, serves to more equally spread the hay and arrange it transverse the apron, so that it moves in a uniform mass. By diverging the belts toward their upper ends clogging at said ends is avoided, and any quantity capable of being taken in at the lower end of the carrier will be readily carried up and delivered from the carrier.

What is claimed as new is—

1. In a hay-loader, the combination, with the frame, the main axle journalled therein, the supporting-wheels journalled on the ends thereof, the curved teeth carried by the axle, and means for adjusting the angle of the teeth to the frame, of forwardly-inclined endless aprons leading from a point just in front of the rake and having their adjacent faces moving in the same direction, a small sprocket on one of the rollers of the lower apron, a larger sprocket on the roller of the upper apron, a sprocket-ring on one of the driving-wheels, and a chain belt passing over this ring, under the larger sprocket and over the smaller sprocket, as and for the purpose set forth.

2. In a hay-loader, the combination, with the gathering devices and an apron leading upwardly and forwardly therefrom, of a frame supporting the whole, a framework leading upwardly and forwardly from a point below the upper end of said apron, an upwardly-moving delivery-apron in said framework, braces connecting the frame and framework, and plates carried by said braces above the lower end of the delivery-apron, one plate being raised and the other depressed, so as to turn the grain a right angle, substantially as described.

3. In a hay-loader, the combination, with the gathering devices, a broad apron leading upwardly therefrom, teeth carried thereby, and a frame supporting the whole, of a narrow framework carried by said frame and leading upwardly from a point thereon below the upper end of said apron, a narrow delivery-apron moving in said framework, and plates below the upper end of the broad apron, one plate being raised and the other being depressed, so as to turn the grain from its position across the broad apron to a position longitudinal of the narrow apron, substantially as hereinbefore described.

4. In a hay-loader, the combination, with gathering, elevating, and delivering mechanisms, of intermediate fixed deflecting-plates arranged at the head of the elevating mechanism, one of said plates being elevated and the other depressed, substantially as specified.

5. In a hay-loader, the combination, with gathering mechanism, of an endless carrier located in front of same and comprising two endless aprons arranged one above the other with their adjacent or facing sides provided with teeth traveling in the same direction at

different rates of speed and diverging toward
their front ends and the deflecting-plates,
one raised and the other depressed, located
in front of the carriers to receive the hay
5 therefrom and change its disposition from
transverse to longitudinal and the elevator at
the end of the deflecting-plates, substantially
as specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 10
the presence of two witnesses.

JOHN L. McCREARY.

Witnesses:

P. H. McBRIDE,
FRANK PIPPY.