

No. 777,925.

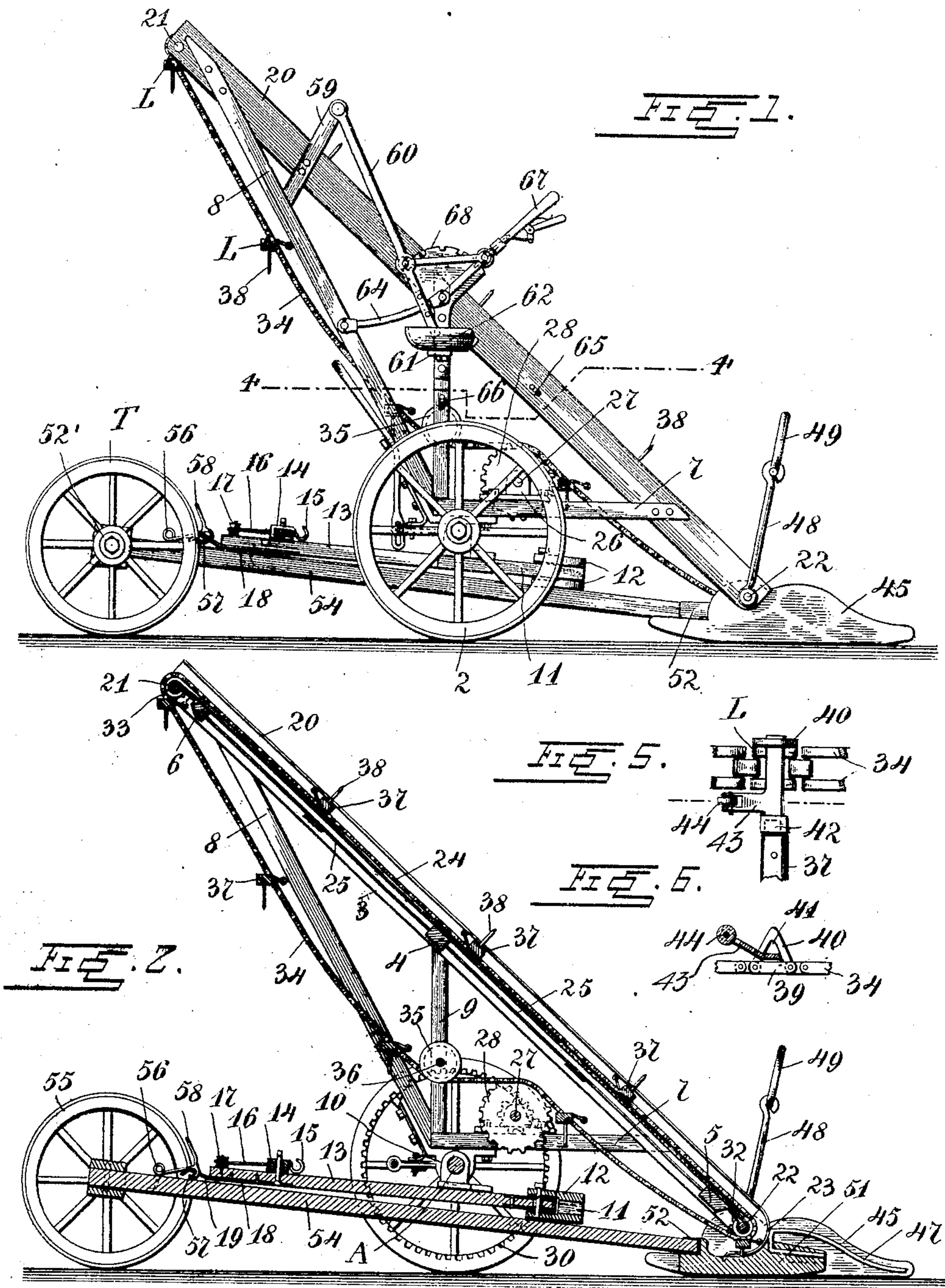
PATENTED DEC. 20, 1904.

H. SIEGERT.  
HAY LOADER.

APPLICATION FILED MAY 26, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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by

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2 SHEETS—SHEET 2.

FIG. 3.

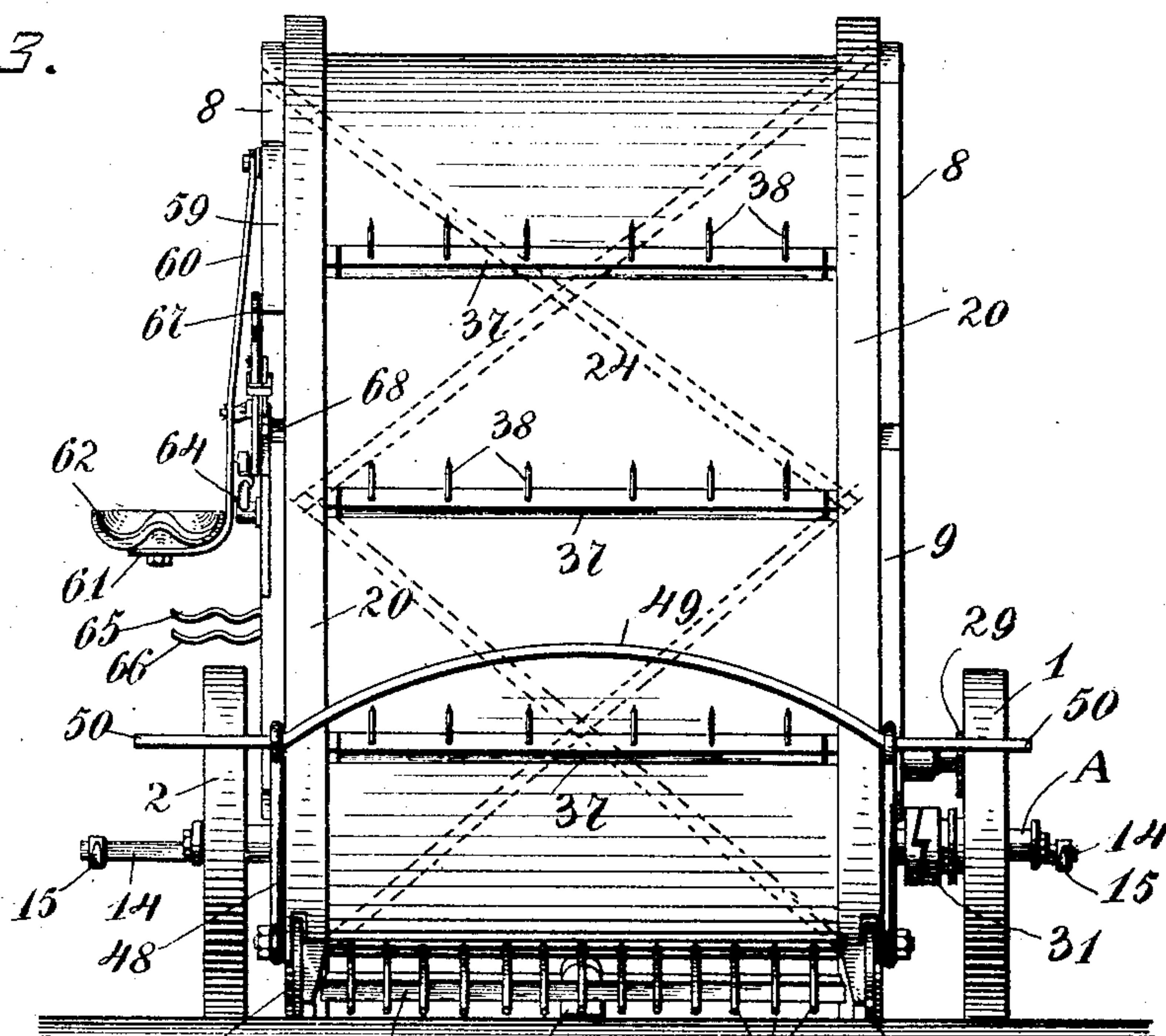
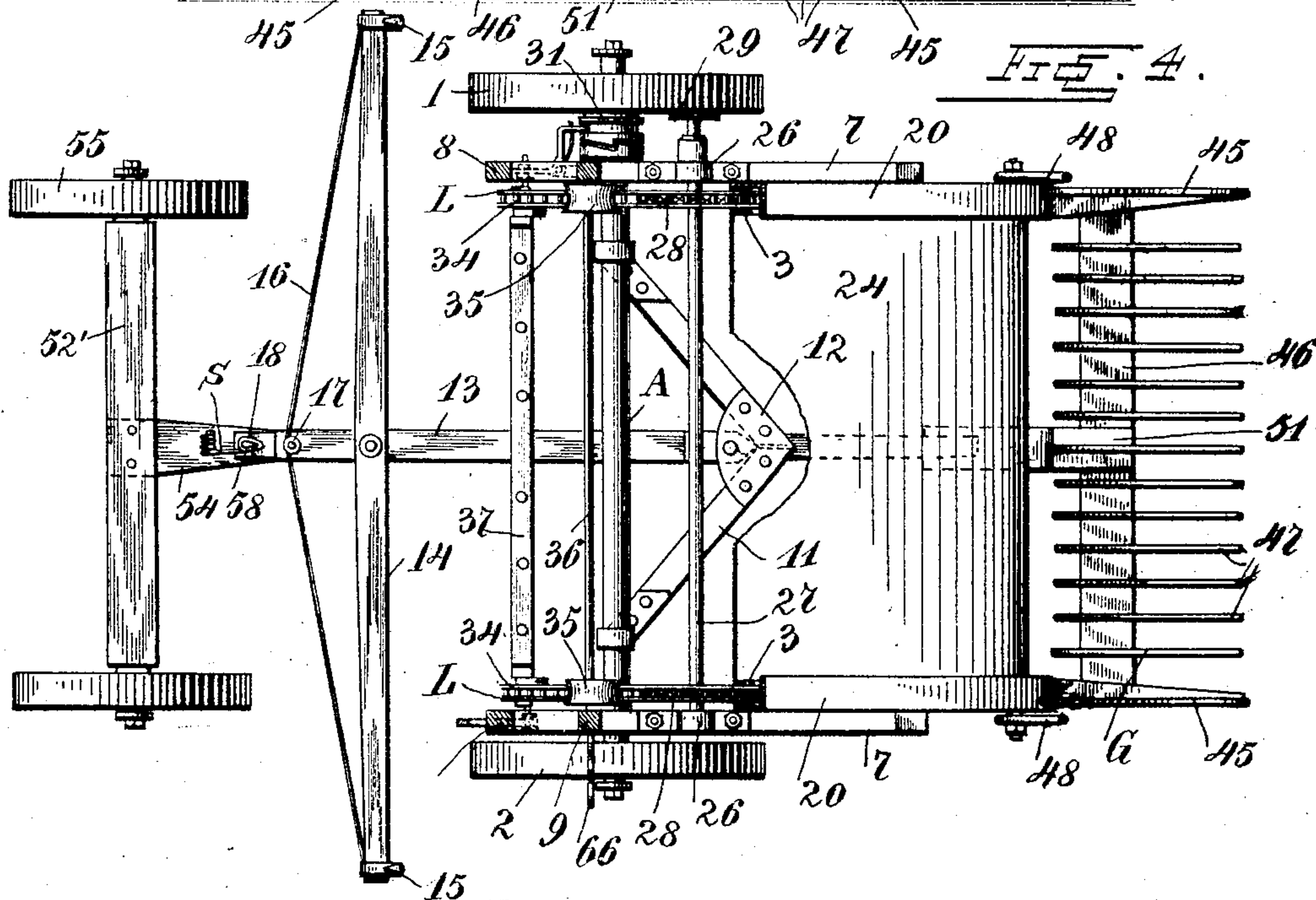


FIG. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

HERMANN SIEGERT, OF GLENCOE, MINNESOTA.

## HAY-LOADER.

SPECIFICATION forming part of Letters Patent No. 777,925, dated December 20, 1904.

Application filed May 26, 1904. Serial No. 209,895.

*To all whom it may concern:*

Be it known that I, HERMANN SIEGERT, a citizen of the United States, residing at Glencoe, in the county of McLeod and State of Minnesota, have invented a new and useful Hay-Loader, of which the following is a specification.

This invention relates to that class of devices which are generically known as "hay-loaders" and which are used for the purpose of loading hay, grain, and the like, either loose or in the bundles, onto a driven receptacle, such as a wagon or hay-rack, with which the loader is connected for operation.

The invention has for its object to provide a device of this class which shall be simple in construction, durable, and which may be easily operated to effect the desired result.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being understood, however, that no limitation is made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications, and which may be resorted to within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a side elevation of a hay-loader constructed in accordance with the principles of the invention. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a front elevation. Fig. 4 is a horizontal sectional view taken on the line 4-4 in Fig. 1. Figs. 5 and 6 are detail views showing the means for connecting the slats of the endless carrier with the endless chains of the same.

Corresponding parts in the several figures are indicated by similar characters of reference.

In the construction of this improved hay-loader is included an axle A, having the transporting or driving wheels 1 and 2. The frame

is composed, mainly, of a pair of inclined track members 3 3, which are suitably connected at intervals by spacing-braces, one of which has been indicated at 4, similar braces or cross-pieces 5 and 6 being used to connect the side pieces near their lower and upper ends, respectively. The frame also includes the bottom members 7, which extend rearwardly from the side members 3, with which they are connected near their lower ends, the rear members 8, which connect the rear ends of the bottom members 7 with the side members 3 3 near the upper ends of the latter, and struts 9, which cooperate with the members 7 and 8 to form trusses, whereby the frame is greatly strengthened and reinforced. The bottom members 7 are provided near their rear ends with depending boxes 10, in which the axle is hung.

Suitably connected with or journaled upon the axle is a V-shaped frame 11, provided at its apex with plates or castings 12, between which the front end of a sub-tongue 13 is pivotally mounted. This tongue supports a pivotally-mounted whiffletree 14, provided at its ends, which extend beyond the sides of the frame, with hooks 15 for the attachment of the draft. The ends of the whiffletree are also connected by means of a light steel cable 16, which runs over a pulley 17 upon the rear end of the stub-axle, thus serving to reinforce the whiffletree. At the rear end of the sub-tongue is a plate 18, having a slot 19 for connection with the front truck of a wagon in connection with which the loader is to be used, as will be hereinafter more fully described.

Suitably secured to the outer sides of the side members 3 of the frame are L-shaped angle-plates 20, the outer flanges of which are preferably inserted between the side members 3 and the ends of the frame members 7, 8, and 9, which have been described as connected with the outer sides of the frame members 3. The upper flanges of the angle-irons 20 are disposed above and spaced from the upper sides of the side members 3, thus forming tracks for the sprocket-chains which constitute a portion of the endless carrier of the device.

The angle-irons 20 are extended above the



upper ends of the side members 3 of the frame, forming brackets which afford bearings for a transverse rod or shaft 21. The lower ends of said angle-plates are likewise extended to  
 5 form brackets, in which a transverse rod or shaft 22 is supported. At the lower ends the upper flanges of the angle-irons are also extended in a downward and reverse direction, forming guards 23. The rods or shafts 21 22  
 10 are connected by a flooring 24, which may be of any suitable material, such as canvas or other textile material, sheet-iron, wood, or any other material that may be deemed suitable for the purpose. This flooring in addition to being mounted upon the rods or shafts  
 15 21 22 may be supported by the side members 3 of the frame and by diagonal braces 25, (shown in dotted lines in Fig. 4,) which connect the bottom and top braces 5 and 6 with  
 20 the intermediate brace or braces 4.

The bottom members 7 of the frame are provided with boxes 26, affording bearings for a shaft 27, upon which are mounted sprocket-wheels 28, the latter being disposed closely  
 25 adjacent to the inner sides of the boxes. Said shaft also carries at one end a pinion 29, meshing with an internal spur-gear 30, formed upon the inner side of the adjacent transporting-wheel 1, from which motion will thus be  
 30 transmitted to the driving-shaft 27. The transporting-wheel 1, as will be seen, is connected with the axle by ordinary clutch mechanism, (indicated conventionally at 31,) whereby the wheel 2, which is fixed upon the axle,  
 35 may revolve independently. The rods or shafts 21 and 22 at the upper and lower ends of the frame support sprocket-wheels 33 and 32, serving to support the endless chains 34, the lower leads of which are guided over the  
 40 driving-sprockets 28 upon the shaft 27. Idlers 35 are disposed upon a rod or shaft 36, mounted in the braces 9 9 a short distance in rear of the driving-sprockets for the purpose of properly guiding the chains. These chains are  
 45 connected at suitable intervals by means of slats 37, having teeth 38. These rake-slats are connected with special chain-links, (designated L,) which in addition to the horizontal frames 39, whereby they are connected with  
 50 the adjacent chain-links, are provided with upstanding flanges 40, which are approximately triangular in shape and which have approximately triangular apertures 41. The rake-slats are provided at the ends thereof  
 55 with castings consisting of sleeves 42, having arms 43, provided with rollers 44, adapted to bear against the under sides of the top flanges of the angle-irons 20, which afford a track for said rollers and which serve to prevent the  
 60 slats from being tilted by the load carried thereon, the sleeves 42 being fitted in the triangular apertures 41, against the front walls of which they rest during the upward passage of the slats. When the upward limit has been  
 65 reached, the rollers 44 will escape from under

the flanges of the angle-irons 20, and the rake-slats as the links in which they are mounted pass over the sprocket-wheels 32 will tilt in a rearward direction, thus discharging the load  
 70 carried thereon and preventing any portion thereof from being carried in a downward and forward direction under the floor of the carrier.

The device is provided at its lower front end with a gatherer G. This gatherer includes  
 75 a pair of shoes 45, pivotally mounted upon the rod or shaft 22 adjacent to the angle-irons 20, said shoes being connected by means of a cross-bar 46, carrying a plurality of gathering-teeth 47, which extend from the cross-bar  
 80 in a rearward and an upward direction and thence downwardly and forwardly, with their points terminating about level with the points of the shoes, which being pivoted, as described, will enable the gathering device to  
 85 adjust itself to any unevenness in the ground, and consequently enabling it to take up all the material that it is desired to load. Pivotally connected with the shaft 22 are a pair of links 48, the front ends of which are pivotally  
 90 connected with the ends of a curved yoke 49, having laterally-extending arms 50, which extend beyond the links 48. This curved yoke and its extensions constitute a neck-yoke, the laterally-projecting arms 50 being in practice  
 95 suitably connected with the collars of the draft-animals, thus elevating the yoke above the gathering device sufficiently to prevent interference with the material that is to be gathered and loaded.  
 100

The cross-bar 46 of the gathering device is provided with a centrally-disposed and rearwardly-extending arm 51, terminating at its rear end in a socket 52. This device is for  
 105 the purpose of connecting the improved hay-loader with the hay-rack or other vehicle into which the material gathered thereby is to be loaded. In the accompanying drawings has been shown the front truck T of such vehicle, including simply an axle member 52', a tongue  
 110 54, and supporting-wheels 55. Suitably mounted upon the tongue near its rear end is a spring-catch S, including a coil 56, having a forwardly-extending hook member 57, which terminates in an upwardly-extending handle  
 115 or lever 58, whereby it may be manipulated. The hook member 57 is adapted to engage the slot 19 in the plate 18 at the rear end of the subtongue 13, the front end of the vehicle-tongue 54 being inserted into the socket 52 of  
 120 the rearwardly-extending arm or member 51. It will be seen that in order to connect the hay-loader with a vehicle it is only necessary that the latter should be provided with the spring-catch S. The latter of course should  
 125 be located at a suitable point to engage the slot 19 when the front end of the tongue is in engagement with the socket 52. The loader may be very readily disconnected from the tongue by simply manipulating the lever 58  
 130



to disconnect the hook member 57 from the slot 19.

The frame of the machine includes an upright 59, which extends upwardly from the right-hand side member 8, and with the upper end of said upright is pivotally connected a swinging seat-supporting bar 60, which terminates at its lower end in a laterally-extending bracket 61, upon which the seat 62 is mounted. The seat-supporting bar 60 is formed with an eye or coil through which extends a guide-bar 64, which is suitably made fast to the frame members 8 and 9 in front of the seat, and foot-rests 65 and 66 are connected, respectively, with the frame member 9 and with one of the side members 3 of the main frame. Means, such as a lock-lever 67, engaging a toothed quadrant 68, are to be provided for the purpose of retaining the seat in any desired position. Adjacent to the seat is also provided a suitable lever, by means of which the clutch mechanism 31 may be thrown into or out of gear; but the latter lever and the parts operated thereby have been only conventionally indicated, as they are no special part of the invention and are of ordinary and well-known construction.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. The improved hay-loader may be very easily and swiftly connected with or detached from the vehicle that is to be loaded, no connecting means being required beyond the spring-catch, which is to be applied to the tongue of the receiving-vehicle. The draft upon the loader is exercised by the whiffletree 14, which is pivotally connected with the subtongue 13, which latter is likewise pivoted between the plates at the apex of the V-shaped frame 11. The draft will thus exercise a pushing action against the apex of said frame, whereby lateral undesired motion is prevented, while at the same time the machine may be guided with perfect ease and certainty. Rotary motion is transmitted from one of the supporting-wheels to the shaft carrying the sprocket-wheels, whereby the chains which constitute a part of the endless carrier are driven. The material which is to be gathered, whether it be loose or in shocks, will readily pass from the gathering-fingers onto the floor or platform 24, where it is taken hold of by the rake-slats and carried upwardly until it is dumped into the receiving-vehicle, where it may be distributed by an attendant. While the machine is in operation the seat is swung to its forward position, and the weight of the operator will thus assist in keeping the gathering device in contact with the ground. When the machine is to be transported or turned or when it shall otherwise be desirable to elevate the ground-engaging front end thereof, the seat is swung to its rearward po-

sition, when the weight of the driver will tend to balance the front part and cause the latter to be elevated from the ground.

Having thus described the invention, what is claimed is—

1. In a hay-loader, a frame, an endless carrier on said frame, a wheeled axle supporting said frame, a forwardly-pointing V-shaped frame connected with said axle, and push means connected with the apex of said V-shaped frame. 70 75

2. In a hay-loader, a frame, an endless carrier supported on said frame, a wheeled axle supporting said frame, a V-shaped frame connected with the axle, plates secured at the apex of said frame, and a subtongue mounted pivotally between said plates. 80

3. In a hay-loader, a frame, an endless carrier supported by said frame, a wheeled axle supporting the frame, a V-shaped frame connected with the axle, a subtongue mounted pivotally at the apex of said frame, a whiffletree connected pivotally with said subtongue, a roller at the rear end of the latter, and a cable connecting the ends of the whiffletree and guided over said roller. 85 90

4. In a hay-loader, a carrier-supporting inclined frame, a wheeled axle supporting the same, a floor or platform supported by the inclined frame, angle-irons at the sides of the latter, cross-bars connecting the said angle-irons, sprockets upon said cross-bars, an endless carrier moving over said sprockets, means for imparting motion to said endless carrier, and means for conveying material from the ground onto said carrier. 95 100

5. A frame including side members, cross members, bottom members and supporting members, boxes depending from the bottom members, a wheeled axle hung in said boxes, boxes upon the upper sides of the bottom member, a shaft journaled in said boxes, drive-sprockets upon said shaft, angle-irons connected with the side members of the frame, shafts at the upper and lower ends of said angle-irons, sprockets upon said shafts, a shaft connecting the upright supporting members of the frame, idlers upon said shaft, endless chains guided over the driving-sprockets, the guide-sprockets and the idlers, and toothed slats connecting said chains. 105 110 115

6. In a hay-loader, the combination with a gathering device, of a frame including side members, cross members spacing the same, angle-irons secured to the side members and having flanges overlapping and spaced from the latter, rods connecting the upwardly and downwardly extended ends of said angle-irons, and a flooring connected with and supported by said rods. 120 125

7. In a hay-loader, the combination with a gathering device, of a frame including side pieces, braces connecting and spacing the same, diagonal rods connecting said braces, angle-irons connected with the side members 130



of the frame and having upwardly and downwardly extended ends, rods supported in said extended ends, and a floor or platform connected at its ends with said rods and supported intermediately upon the spacing-braces and cross-braces of the frame.

8. In a hay-loader, the combination with a gathering device, of an inclined frame having angle-irons provided with flanges extending above and spaced from the upper sides of the side members of the frame, a flooring upon said frame, an endless carrier including chains traveling over guide-sprockets at the upper and lower ends of said frame, links disposed at intervals in said chain and having upstanding flanges provided with approximately triangular apertures, and toothed slats extended into said apertures and movable therein.

9. In a hay-loader, the combination with a gathering device, of an endless carrier including a pair of chains, links disposed at intervals in said chains and having upstanding flanges provided with approximately triangular apertures, toothed slats, sleeves at the ends of said slats extending into the triangular apertures of the links, and arms extending from said sleeves and provided with track-engaging rollers.

10. In a hay-loader, the combination with a gathering device, of an endless carrier including a pair of chains, links disposed at intervals in said chains and having upstanding flanges provided with approximately triangular apertures, toothed slats, sleeves at the ends of said slats extending into the triangular apertures of the links, and means connected with said sleeves to prevent the latter and the slats connected therewith from tilting under the impulse of the load.

11. In a machine of the class described, a wheel-supported inclined frame, angle-irons connected with the side members of said frame, said angle-irons being extended beyond the ends of said side members, downward and rearward extensions of the top flanges of said angle-irons at the lower end of the frame, a cross-rod connecting the lower extended ends of said angle-irons, and a gathering device connected pivotally with said cross-rod.

12. In a device of the class described, an inclined wheel-supported frame, a floor or platform, an endless carrier supported by said frame, and a gathering device including a pair of shoes pivotally connected with the lower end of the frame, a cross-bar connecting said shoes and gathering-fingers connected with said cross-bar.

13. In a machine of the class described, a wheel-supported frame having a floor or platform, an endless carrier supported by said frame, a cross-rod at the lower end of said frame, and a gathering device including shoes connected pivotally with said cross-rod, a cross-bar connecting said shoes, gathering-fin-

gers connected with said cross-bar, and an arm extending rearwardly from said cross-bar and provided with a socket for the direct application of propulsive power.

14. In a machine of the class described, a wheel-supported frame, an endless carrier supported by said frame, a gathering device supported pivotally at the lower front end of said frame, a socketed arm extending rearwardly from said gathering device, and propulsion means including a tongue adapted to engage a socketed, rearwardly-extending arm of the gathering device.

15. In a device of the class described, a frame, a wheel-supported axle supporting said frame, an endless carrier mounted upon said frame, a gathering device connected pivotally with the lower front end of said frame and having a rearwardly-extending socketed arm, a V-shaped frame connected with the wheel-supported axle, a subtongue connected pivotally with said V-shaped frame at the apex of the latter, a whiffletree connected pivotally with the subtongue, and a tongue adapted for connection with the subtongue and adapted to engage, at its front end, the socketed arm extending rearwardly from the gathering members.

16. In a hay-loader, a gathering device, a socketed arm extending rearwardly from said gathering device, a subtongue constituting a push-rod, means for connecting said subtongue with the axle of the transporting-wheels of the loader, push means, including a tongue adapted to engage the socketed arm of the gathering device, and means for connecting said tongue detachably with the subtongue.

17. In a hay-loader, a wheel-supported frame having an endless carrier, a V-shaped frame connected with the axle, a push-rod connected with the V-shaped frame at the forward-pointing apex of the latter, a whiffletree connected with said push-rod and extending beyond the sides of the frame, a cross-rod at the lower end of the latter, links connected pivotally with said cross-rod, and a curved yoke connected with said links, having laterally-extending arms, and constituting a neck-yoke.

18. In a machine of the class described, a wheel-supported frame having an endless carrier, an axle connected with said frame, transporting-wheels upon said axle, a V-shaped frame connected with the latter, a push-rod connected pivotally with said frame at the forwardly-pointing apex of the latter, draft means connected with said push-rod, a gathering device connected pivotally with the lower front end of the frame and including a pair of shoes at the ends thereof, links connected pivotally with the lower front end of the frame, and a neck-yoke comprising a curved yoke having laterally-extending arms connected pivotally with the front ends of the



links, said yoke being adapted to rest upon the shoes and to be thereby supported above the ground when draft is not applied.

19. In a machine of the class described, a wheel-supported frame having a platform, an endless carrier movable over said platform, a gathering device connected pivotally with the lower front end of the frame, a seat-supporting bar connected pivotally with the frame in rear of the axle, a seat mounted upon the free end of said pivoted bar, and means for securing said seat at various adjustments.

20. In a machine of the class described, an inclined frame, an endless carrier movable in said frame, a wheeled axle supporting the latter, a swinging seat-bar connected with the frame near the upper end of the latter, said bar having an eye, a guide-bar extending through said eye, a seat mounted upon the bar, and means for securing the latter at various adjustments.

21. In a machine of the class described, a wheel-supported inclined platform, a swinging seat-carrying bar connected with the same and having an eye or aperture, a guide-rod connected with the frame and extending through said aperture, a plurality of foot-rests connected with the frame in various positions, and means for securing the seat-carrying bar at various adjustments.

22. In a hay-loader, a wheel-supported frame, an endless carrier upon said frame, and push means, including a tongue and a sub-

tongue connected with the frame in front of the axle.

23. In a hay-loader, a wheel-supported frame, and an endless carrier upon said frame, in combination with push means including a plurality of push-bars having connection with the frame and the axle at points which are normally in longitudinal alinement with each other.

24. In a hay-loader, a wheel-supported frame, and an endless carrier supported thereon, in combination with push means including a tongue and a subtongue constituting push-bars, the forward ends of which have loose connection with the structure at points which are in longitudinal alinement with each other.

25. In a hay-loader, a wheel-supported frame, and an endless carrier movable thereon, in combination with push means including a tongue and a subtongue constituting push-bars having pivotal connection with the structure at points in longitudinal alinement with each other, and means for detachably connecting said tongue and subtongue.

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

HERMANN SIEGERT.

Witnesses:

T. M. PRINCE,  
M. THAENY.