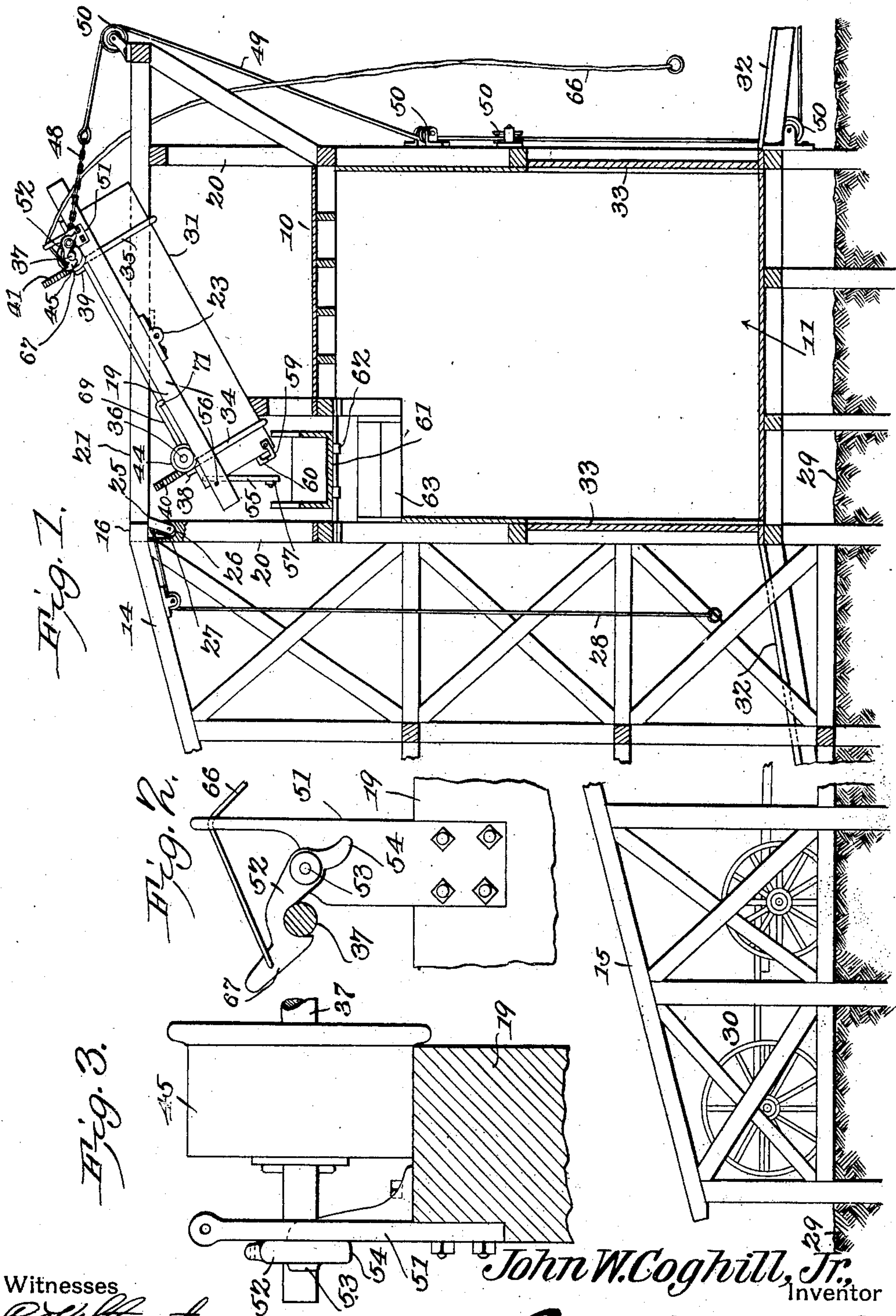


No. 826,709.

PATENTED JULY 24, 1906.

J. W. COGHILL, JR.  
ELEVATING AND UNLOADING APPARATUS.  
APPLICATION FILED NOV. 13, 1905.

2 SHEETS—SHEET 1.



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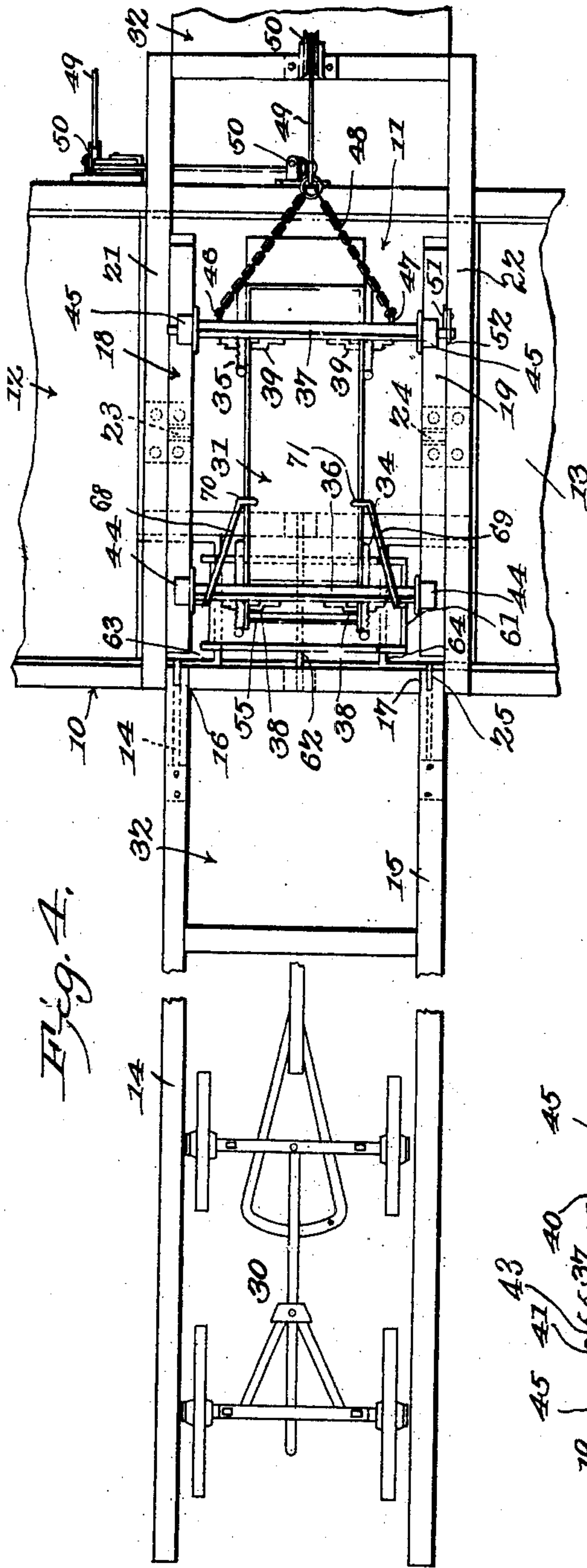


Fig. 4.

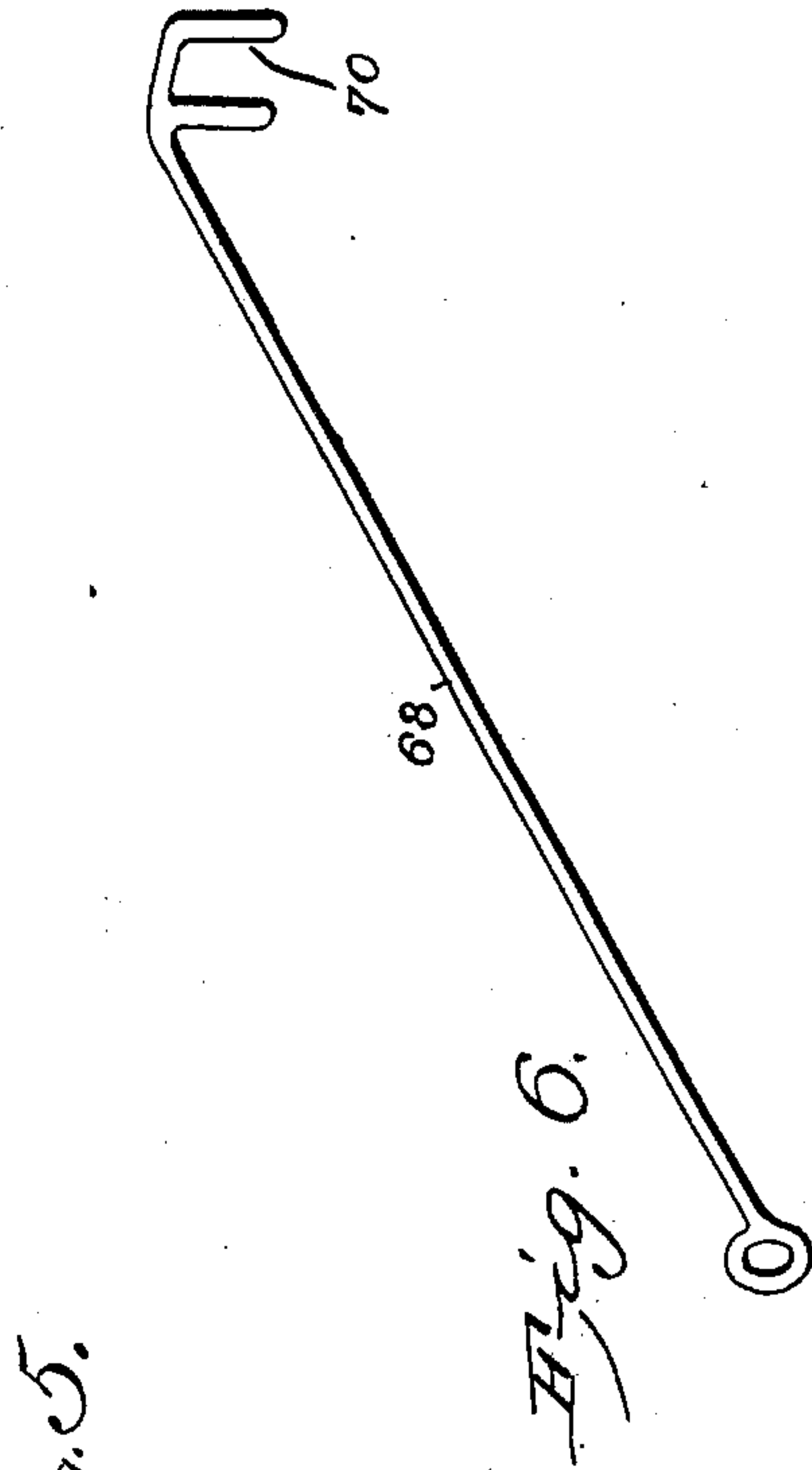


Fig. 5.

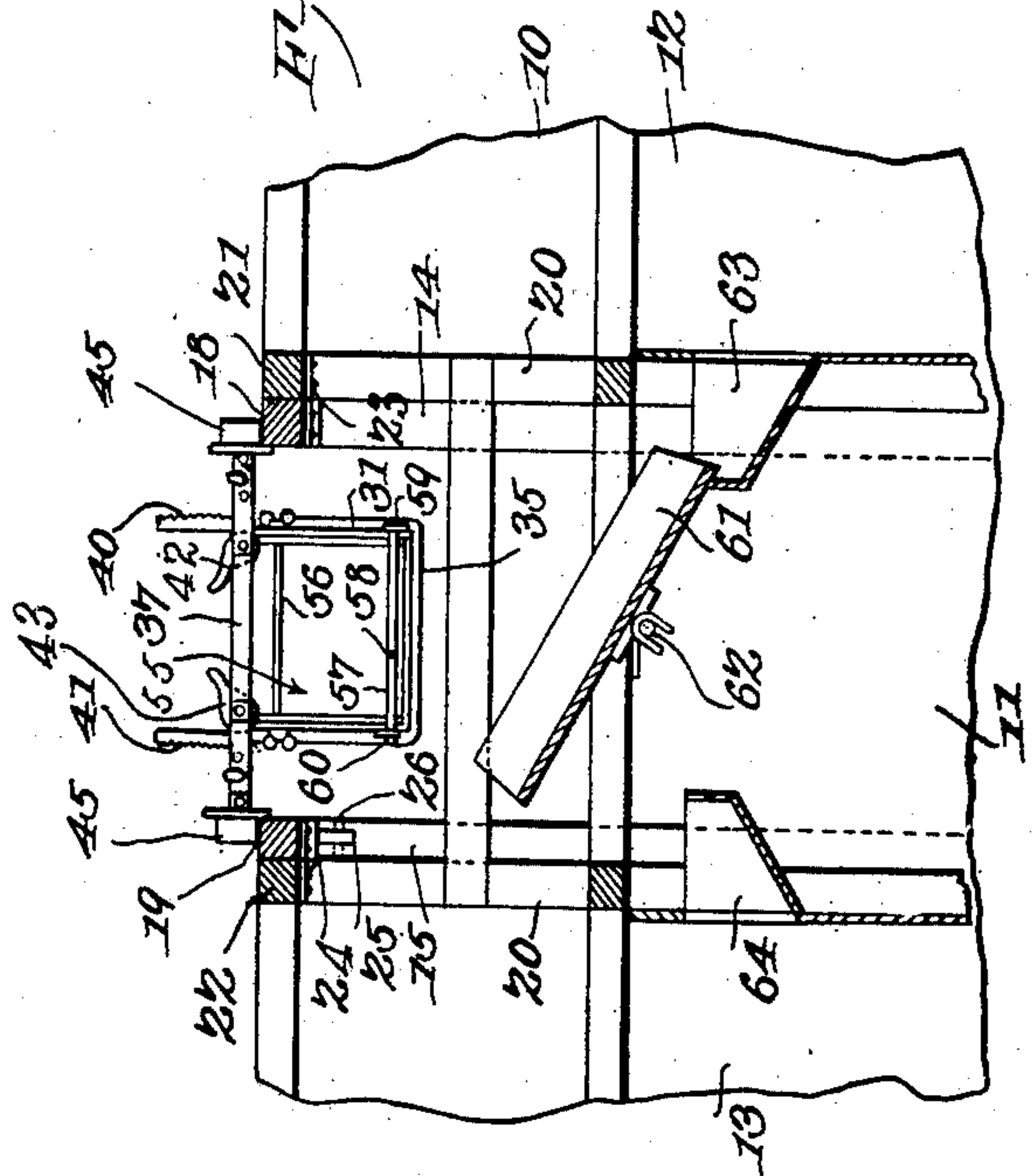


Fig. 6.

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# UNITED STATES PATENT OFFICE.

JOHN W. COGHILL, JR., OF ROSEVILLE, ILLINOIS.

## ELEVATING AND UNLOADING APPARATUS.

No. 826,709.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed November 13, 1905. Serial No. 287,127.

*To all whom it may concern:*

Be it known that I, JOHN W. COGHILL, Jr., a citizen of the United States, residing at Roseville, in the county of Warren and State of Illinois, have invented a new and useful Elevating and Unloading Apparatus, of which the following is a specification.

This invention relates to apparatus for elevating and unloading products of various kinds, and more particularly adapted for elevating wagon-bodies and discharging the loads therefrom, and has for its object to provide a simply constructed and arranged device whereby the wagon-body may be detached from the running-gear and elevated to a position above the bins of the storehouse or elevator and the contents of the body discharged into the same and the body portion returned to its position upon the running-gear.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that various changes in the form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention within the scope of the appended claims.

In the drawings, Figure 1 is a sectional side elevation of the improved apparatus. Figs. 2 and 3 are enlarged detail views of the wagon-body-holding device. Fig. 4 is a plan view of the parts shown in Fig. 1. Fig. 5 is a section on the line 5 5 of Fig. 1 with the wagon-body and tilting members in horizontal position. Fig. 6 is a perspective view, enlarged, of the brace-hook.

The improved apparatus may be arranged for use in connection with any form or construction of storehouse, crib, grain-elevator, or the like or to structures of this class of any size or capacity, but for the purpose of illustration is shown in the drawings applied to a conventional grain-storehouse structure, (represented as a whole at 10.) Storehouses of this class are generally constructed with a central driveway, as at 11, with the storage-bins 12 13 at each side and into which the

grain is deposited and from which it is spouted or otherwise removed when required.

In the smaller storehouses two bins only are employed, and in the larger structures the bins are multiplied by arranging them end to end along the sides of the driveway, and the improved apparatus herein described is adapted without structural changes to storehouses having any number of the storage-bins by simply duplicating the tilting devices, as hereinafter described.

In a storage structure of the class herein shown the central driveway is approached by inclines 32 and provided with doors 33 and is frequently utilized for the storage of grain when the supply exceeds the capacity of the storage-bins, and the improved apparatus herein shown and described is readily adapted to discharge the load of the wagon-body or other receptacle into this driveway-space or into the bins, as required.

The improved device comprises an inclined runway having spaced tracks leading from the ground to a point above the storage structure, a tilting device above the storage structure to receive the wagon-body and hold the same while being discharged of its load, an adjustable chute to guide the grain into the various bins or pockets, and various minor details of the construction, which will be hereinafter described.

The runway may be of any required length and constructed with any required grade, the incline depending largely upon the size and height of the storage structure.

The improved runway consists of inclined rails 14 15, spaced apart sufficiently to permit a wagon to be driven between them.

The rails 14 15 terminate at their upper ends at the nearest wall of the storage structure 10 and above the driveway 11, as at 16 17, and the rails 14 15 are continued over the storage structure by spaced rails 18 19.

The terminals 16 17 and the rail-sections 18 19 are disposed some distance above the structure 10 and supported in that position by a suitable framework 20, this framework also supporting spaced members 21 22, upon which the rail members 18 19 are mounted to swing vertically, as by pivots 23 24.

At one or more points in the framework 20 stops 25 are pivoted at 26 and provided with springs 27 to hold their free ends projected into the paths of the swinging rail members 18 19 and support them in closed position or in alinement with the rails 14 15.



The stops 25 are provided with a pull-cord 28, leading to a point convenient to the operator on the ground, (represented at 29.) By this arrangement the stop members are maintained yieldably in projected position, and when the rails 18 19 swing into horizontal position the stop members will permit them to pass upward, but will be projected beneath the rails and prevent downward movement until the stops are released by the pull-cord.

The wagon running-gear is represented at 30 and the body or box at 31, the latter shown arranged upon the rails 18 19 in position for discharging its load, as hereinafter described.

The wagon-body 31 is provided with suitably-constructed carrier devices clamped to the body and provided with flanged wheels for running upon the rails 14 15 and 18 19.

The carrier devices consist of U-shaped members 34 35, bearing beneath the body and extending above the same, and transverse bars 36 37, bearing across the upper edges of the body and with which the vertical portions of the members 34 35 are slidably connected by keepers 38 39. The vertical portions of the members 34 35 are provided with spaced notches 40 41, and the bars 36 37 are provided with cams 42 43, operating to couple the notched members with the keepers at any required point, and thus adjustably couple the parts. Thus the carrier-bars 36 37 may be firmly clamped in position upon the body 31 and adapted to bodies of different sizes. The extremities of the bars 36 37 are provided with flanged wheels 44 45 for running upon the rails 14 15 and rail-sections 18 19, as will be obvious. The bar 37 is provided with spaced eyes 46 47, to which a draft-chain 48 is coupled, a pull-cable 49 leading from the chain over guide-sheaves 50 to a point near the ground to enable the horses or other power to be readily applied.

Attached to one or both of the rail members 18 19 are brackets 51, having hooks 52, pivoted at 53 thereon, for bearing over the bar 37 when the latter is moved into the paths of the hooks, and thus holding the body 31 locked to the rails to prevent backward movement when the tilting action occurs, the hooks having inclined faces 67 leading thereto to guide the member 37 into the same. The hooks 52 are provided with lugs 54, which the member 37 strikes for throwing the hook over into engagement with the member if left in open position. The tail-board 55 of the wagon-body 31 is mounted to swing outward at the lower edge upon a transverse rod 56, the tail-board having a lock-lever 57 pivoted at 58 thereto and adapted for engagement at the ends with hooks 59 60 upon the body 31. The pivot 58 is located at one side of the center of the lock-

bar 57, so that it will swing by gravity into operative engagement with the hooks 59 60 when released. A chute 61 is mounted to swing, as at 62, beneath the rear ends of the rail-sections 18 19 and the body 31, held thereby, to receive the load from the body when the tail-board is released and conduct the material into the bins 12 or 13, as required, receiving-spouts 63 64 being arranged to receive the material from the tilting chute and conduct it to the bins. The chute 61 is detachable from its pivot 62, so that it can be removed when the load is to be discharged into the central space or driveway 11.

With an apparatus thus constructed and the rail members 18 19 in horizontal position and held in place by the stop member 25 the wagon to be unloaded is driven to the entrance-point of the rails 14 15 with the forward end of the body 31 between the lowest part of the rails. The carrier-bar 37 is then placed across the rails with the wheels 45 bearing thereon and the bar clamped to the body 31 by the U-shaped member 35 and cams 39. The bar 36 is then clamped to the body 31 near the rear or tail board by the U-shaped member 34 and cams 38, care being taken that the flanged wheels 44 are spaced the same distance from the body 31 as the wheels 45. The draw-cable 49 and chain 48 are then connected to the member 37, and as the power is applied to the cable by horses or other power the body 31 is moved upward along the tracks, with the result of transferring the body 31 and its load to the rail-sections 18 19, the ends of the bar 37 engaging the hooks 52, and thus locking the body and its attachments to the rail-sections. The chute 61 is then adjusted to convey the material to the bin 12 or 13, as required, or removed entirely if the material is to be discharged into the space 11. The lock-bar 57 is then released and the body 31 tilted into the position shown in Figs. 1 and 4 and the load discharged by gravity, the body being limited in its tilting movement by a stop. When the load is discharged, the rail-sections 18 19 are returned to their horizontal position, carrying the body 31 and its attachments with them, and the latter is then permitted to run back down the inclined track 14 15 to its former position upon the running-gear 30. The carrier devices are then detached and the wagon driven away. A pull-cord 66 is attached to the trip-hooks 52 to enable the same to be operated from the ground.

Movably attached to one of the transverse bars 36 37, preferably to the rear bar 36, are brace-rods 68 69, having spaced depending pins 70 71 at their free ends for bearing over the upper edges of the body 31 and preventing any swaying movement between the parts.



Having thus described the invention, what is claimed is—

1. In a combined elevating and unloading apparatus, the combination of a storehouse divided into a plurality of receiving-bins, spaced rails swinging vertically above said bins and spaced therefrom, inclined rails leading from the ground and with their upper terminals coinciding with said swinging rails when the same are in horizontal position, spaced bars provided with bearing-wheels engaging said rails, a receptacle, means for suspending said receptacle from said bars, hoisting devices for moving said bars and the receptacle suspended therefrom over the inclined rails and upon the swinging rails, a chute movably disposed between said receiving-bins and swinging rails for conducting the material discharged from said receptacle into said bins.

2. In a device of the class described, stationary guide-rails spaced apart and disposed in inclined position, spaced rail-sections extending from the higher ends of said inclined rails and mounted to swing vertically, hanger members having means for coupling to the body portion of a vehicle and provided with bearing-wheels operating upon said rails, and hoisting devices for moving said hanger members and the body portion carried thereby longitudinally of said stationary rails and upon the swinging rail-sections.

3. In a device of the class described, stationary guide-rails spaced apart and disposed in inclined position, spaced rail-sections extending from the higher ends of said inclined rails and mounted to swing vertically, hanger members having means for coupling to the body portion of a vehicle and provided with bearing-wheels operating upon said rails, means for locking said hanger members to said swinging rail-sections, and hoisting devices for moving said hanger members and the body portion carried thereby longitudinally of said stationary rails and upon the swinging rail-sections.

4. In a device of the class described, stationary guide-rails spaced apart and disposed in inclined position, spaced rail-sections extending from the higher ends of said inclined rails and mounted to swing vertically, spaced bars having bearing-wheels operating upon said rails, a receptacle, means for suspending said receptacle from said bars, and hoisting devices for moving said bars and the receptacle suspended therefrom longitudinally of said stationary rails and upon said swinging rail-sections.

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

JNO. W. COGHILL, JR.

Witnesses:

J. C. DITTMAN, Jr.

CARY J. BOYD.