

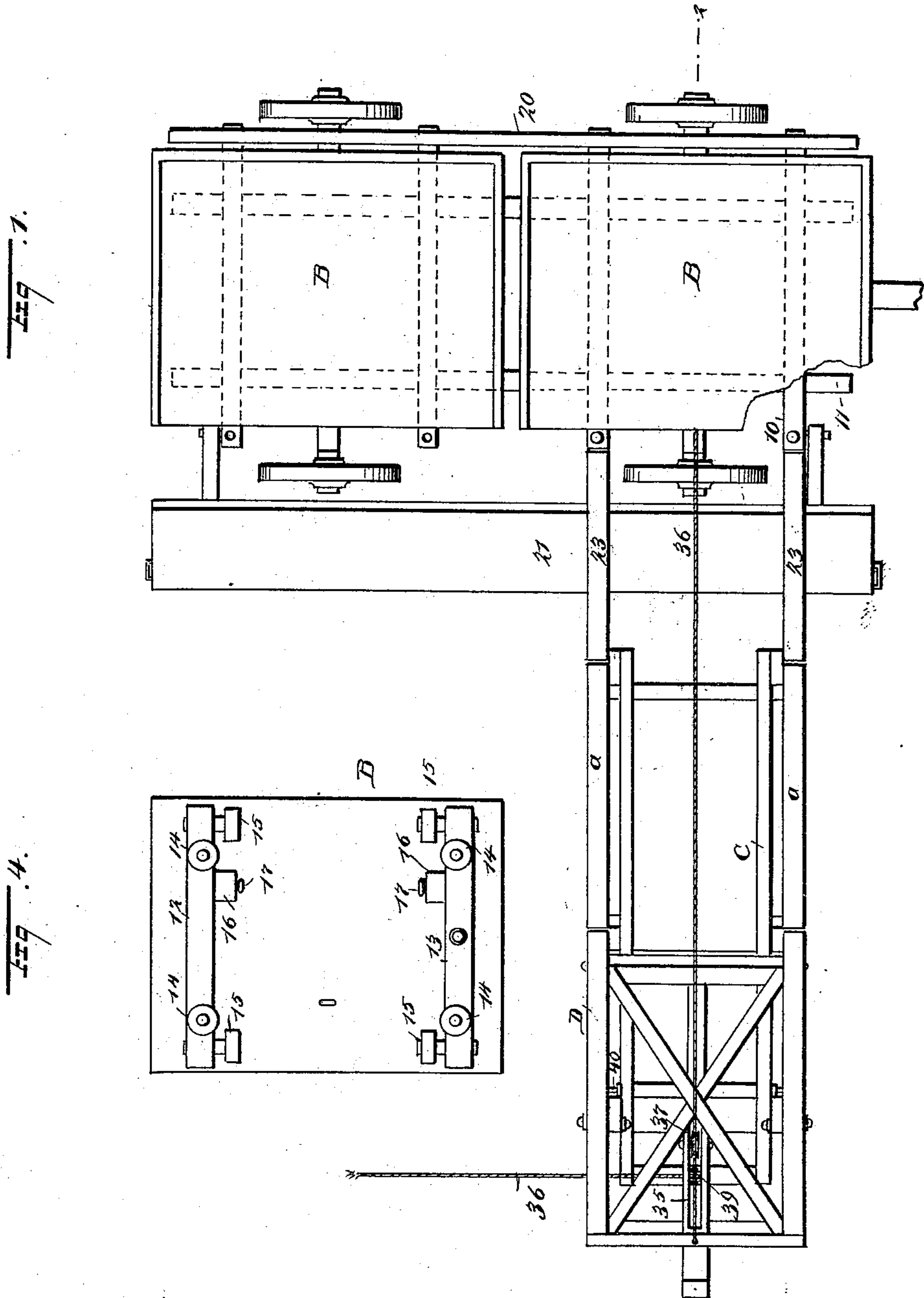
(No Model.)

2 Sheets—Sheet 1.

N. HOUSINGER.  
STACKER.

No. 507,008.

Patented Oct. 17, 1893.



WITNESSES:

*H. Walker*  
*C. Sedgwick*

INVENTOR

*N. Housinger*  
BY *Munn & Co*

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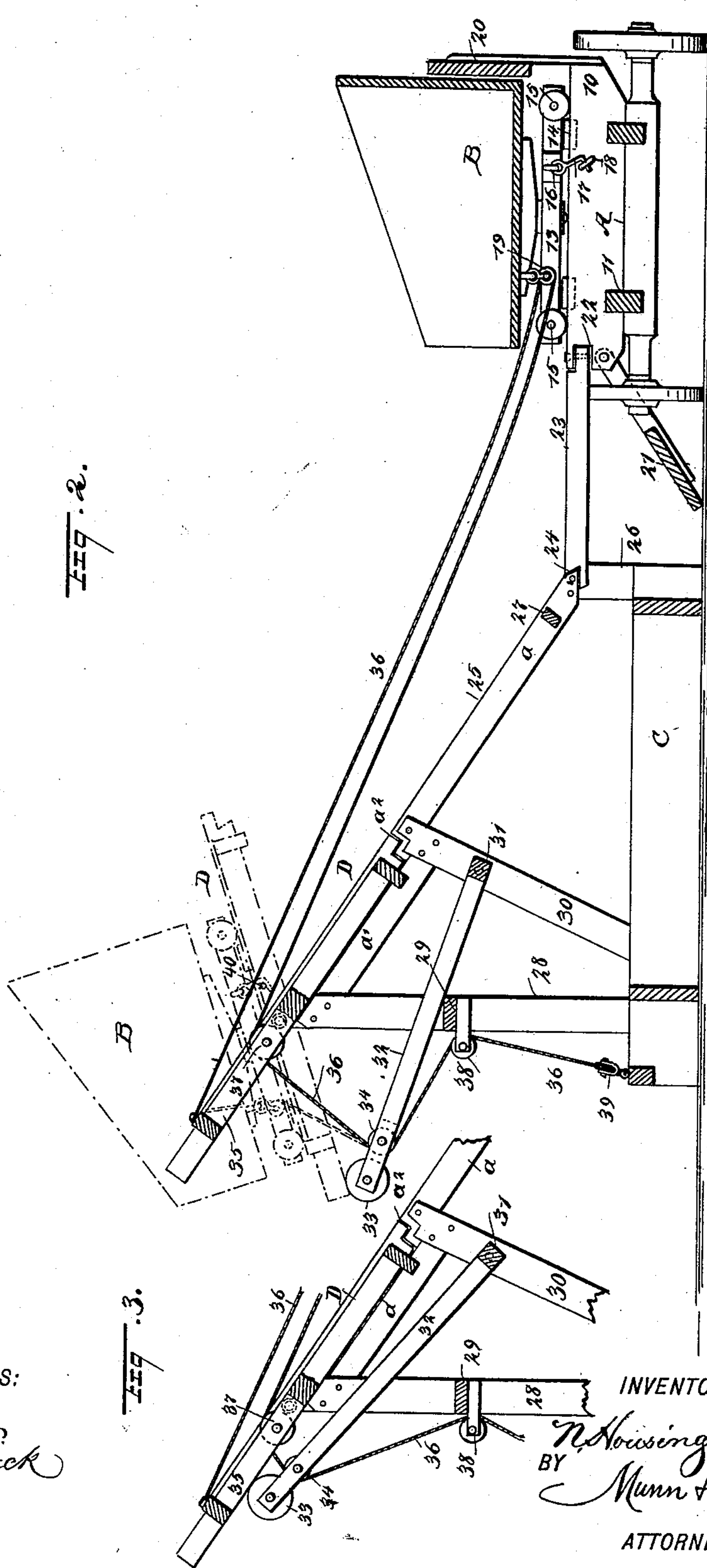
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# UNITED STATES PATENT OFFICE.

NICHOLAS HOUSINGER, OF SYLVIA, KANSAS.

## STACKER.

SPECIFICATION forming part of Letters Patent No. 507,008, dated October 17, 1893.

Application filed February 17, 1893. Serial No. 462,765. (No model.)

*To all whom it may concern:*

Be it known that I, NICHOLAS HOUSINGER, of Sylvia, in the county of Reno and State of Kansas, have invented a new and useful Improvement in Wheat-Stackers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wheat stackers, and it has for its object to provide a machine of simple, durable and economic construction, whereby the grain when placed in suitable receptacles may be drawn up inclined planes and expeditiously and conveniently dumped, and the receptacle restored to the vehicle or support from which it was taken.

A further object of the invention is to construct the machine in an exceedingly simple, durable and economic manner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the apparatus. Fig. 2 is a longitudinal vertical section taken essentially on the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional view of the dumping mechanism, illustrating the manner in which it is supported before it receives its load; and Fig. 4 is a bottom plan view of one of the receptacles in which the grain is to be placed.

In carrying out the invention, in connection with the machine or apparatus proper a vehicle A, is employed, and the said vehicle is provided with a series of cross bars 10, extending over and attached to its side beams 11, the cross bars and side beams constituting the body of the vehicle. Any desired number of cross bars may be employed, and they are arranged at predetermined intervals apart, preferably in pairs as shown in Fig. 1, in which two pairs of cross bars are illustrated as applied to the bed of the vehicle. Each pair of cross bars is adapted to support a receptacle B, adapted to receive wheat to be stacked; and the receptacles are prefer-

ably made higher at the back than at their forward ends, and their rear ends are closed while their forward ends are open.

As shown in Fig. 4, each receptacle is provided with a stationary cross bar 12 and a pivoted cross bar 13; and each of the cross bars is provided upon its lower face near each end with a friction roller 14, while upon the inner face of each cross bar, between the lower friction roller 14 and the extremity, another friction roller 15, is located. Thus the friction rollers 14 and 15 are arranged in pairs, the axis of one being at a right angle to the axis of the other.

Each cross bar 12 and 13 is provided with an extension 16 upon its inner face, ordinarily adjacent to the rear lower friction roller 14, and upon each of the extensions 16 a hook 17, or the equivalent thereof is pivoted. When the receptacles are placed upon the bed of the vehicle their lower friction rollers travel against the outer side surfaces of the cross bars which support the receptacle, while the side friction rollers travel upon the upper edge of said cross bars, as shown in Fig. 2. By this means the receptacles are prevented from having lateral movement upon the vehicle, while they are prevented from slipping from the bed by causing their hooks 17 to enter staples 18, located in the cross bars of the bed.

Near the forward central portion of each receptacle a pulley 19, is attached to its under face for a purpose to be hereinafter described. Ordinarily what may be termed the rear of the vehicle is provided with a permanent side board 20, projected upward from its bed, while at the front of the vehicle a corresponding side board 21, is pivotally attached to the bed, the attachment between the bed and the side board being effected by arms connected with the side boards and pivotally attached to the side bars.

The front end of each cross bar 10 of the bed of the vehicle A, is provided with a recess 22; and within each recess of each cross bar one end of a track 23, is pivotally located, the track being capable of extending horizontally outward from the ends of the cross bars, or the tracks may be carried inward longitudinally of the vehicle bed to extend from



one cross bar to the other; and the free end of each vehicle track is preferably provided with an under-cut recess 24.

The stacking apparatus may be said to consist of a base C, upon which two parallel and inclined tracks 25, are located, the tracks extending from a point near the forward end of the base upward and over the rear end, a much greater distance intervening the rear of the base and the rear of the track than the front of these two parts.

The tracks 25, may be said to comprise two sections  $a$  and  $a'$ . The section  $a$  is the lower section and is the longer of the two, while the upper face of the upper section  $a'$  is brought in engagement with the lower face of the upper part of the lower section of the track, thus causing a step to intervene the two sections; and the upper end of the lower section of each track is provided with an angular recess  $a^2$ . The lower end of each track is attached to the forward end of the base by an upright 26; and the tracks adjacent to the forward uprights are connected and stayed by a cross bar 27, while the upper ends of the upper sections of the tracks are supported by uprights 28, attached to the rear portion of the base, the said uprights being connected and braced by cross bars of any approved pattern, but a transverse cross bar 29, is shown as employed for that purpose, located about mid-way between the base and the upper ends of the standards. Intermediate and somewhat inclined standards 30, connect the base with the lower ends of the upper sections of the tracks and the upper ends of the lower track sections, and the inclined standards are connected by a pivotal bar 31, and this pivotal bar has connected with it at its center a rearwardly-extending arm 32, which arm projects over the rear transverse brace bar 29, and some distance rearwardly beyond the rear standards 28, being provided at its outer end with a friction pulley 33 and a guide pulley 34 is located adjacent to the friction pulley.

A tilting or dumping frame D, preferably of somewhat rectangular shape, is pivotally connected with the upper ends of the rear standards 28, and at the lower end of said frame its side bars are projected beyond the body and are stepped to fit into the angular recesses  $a^2$  upon the tracks 25. The tilting frame or platform D, preferably consists of front, rear and side bars, and cross bars extending from corner to corner of the connected front, rear and side bars, while a slotted bar 35, is carried from the center of the braces of the platform outward beyond the central portion of the rear end of the platform, as shown in Fig. 1.

When the receptacles B, are placed opposite the tracks, the pivoted side boards 21 are dropped and the tracks 23 of the vehicle are carried to an engagement with the tracks of the stacker. Next, the cable 36, which is attached to the upper central portion of the

tilting platform, is carried downward and passed over the pulley 19 of the receptacle to be elevated, and thence over a pulley 37, located in the slotted portion of the arm 35 of the tilting platform, and thence downward over the pulley 34 in the frame arm 32, and over another pulley 38 located upon the back of the rear standard 28, and then preferably over a sheave 39, placed upon the rear end of the base, as shown in Fig. 2.

It will be understood that when the tilting platform is in its normal position, its upper face is flush with the lower track section  $a$ , and in fact constitutes virtually a continuation of that section. Thus when a vehicle loaded with grain, after its hooks 17 have been disengaged from the keepers on the vehicle, is drawn up the inclined track 25 through the medium of the cable 36, and said receptacle travels upon the platform, the moment that its hooks 17 engage with studs 40 located upon the sides or tracks of the platform, the bulk of the receptacle will be over the pivot point of the platform, and the platform will dump, or incline downward and rearward, causing the contents of the receptacle to spill out.

It is necessary that some means should be devised for holding the tilting platform in its receiving position while the loaded receptacle is being drawn upon it, and this is accomplished by the guide arm 32, as the moment that tension is exerted upon the cable 36 in a manner to raise the receptacle B, the guide arm 32, will be carried outward until its friction pulley 33, shall have engaged with the central bracing arm 35 of the platform, as shown in Fig. 3.

This device is not only simple, durable and economic but through its aid stacks may be expeditiously and conveniently made.

The object of pivoting one axle upon the receptacle B, is to provide for the manipulation of the receptacle in transferring it from the wagon when standing upon uneven ground to the tracks, in a manner to insure its properly entering upon the tracks.

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

1. In a grain stacker, the combination, with a vehicle having one of its side boards pivoted thereto, receptacles having sliding movement upon the vehicle and locking engagement therewith, and a track section pivotally connected with the vehicle supports of the receptacles, of an inclined track adapted to engage with the vehicle track sections, and a tilting platform forming a portion of the track, substantially as and for the purpose specified.

2. In a grain stacker, the combination, with an inclined track, a tilting platform forming a portion of the track, and a guide arm pivoted upon the framework of the track and adapted for engagement with the platform, of a vehicle having wheels arranged in pairs,



the axis of one wheel of a pair being at a right angle to the axis of the other, a cable attached to the upper end of the tilting platform, passed over a pulley beneath the receptacle, downward over a second pulley in the platform, then over a pulley in the guide arm and over pulleys upon the rear portion of the frame, as and for the purpose set forth.

3. In a grain stacker, the combination, with inclined tracks, a tilting platform forming a portion of the tracks and provided with a central arm containing a guide pulley, a guide arm pivoted beneath the tracks and platform and extending beneath the elevated portion thereof, the said guide arm being provided with a guide pulley at its outer end and a friction pulley adjacent to the guide pulley, and a guide pulley located upon the frame forward of the pulley in the guide arm, of a vehicle provided with locking devices, and wheels arranged in pairs, the axis of one wheel being at a right angle to that of the other, a pulley located beneath the vehicle, a

cable attached to the upper end of the platform, and carried over the pulley of the receptacle, the pulley in the platform and the pulleys in the guide arm and on the frame, all being adapted to operate substantially as shown and described.

4. In a device of the character described, a vehicle provided with a series of tracks, receptacles located upon the tracks, the receptacles being provided with wheels arranged in pairs, the axis of one wheel being at an angle to the axis of the other, a permanent side board attached to the vehicle bed and located at one side of the receptacles, a pivoted and drop side board located at the opposite side of the vehicle, and track sections pivoted in the ends of the track at which the drop side board is located, as and for the purpose set forth.

NICHOLAS HOUSINGER.

Witnesses:

W. S. YEAGER,  
A. KAHN.