

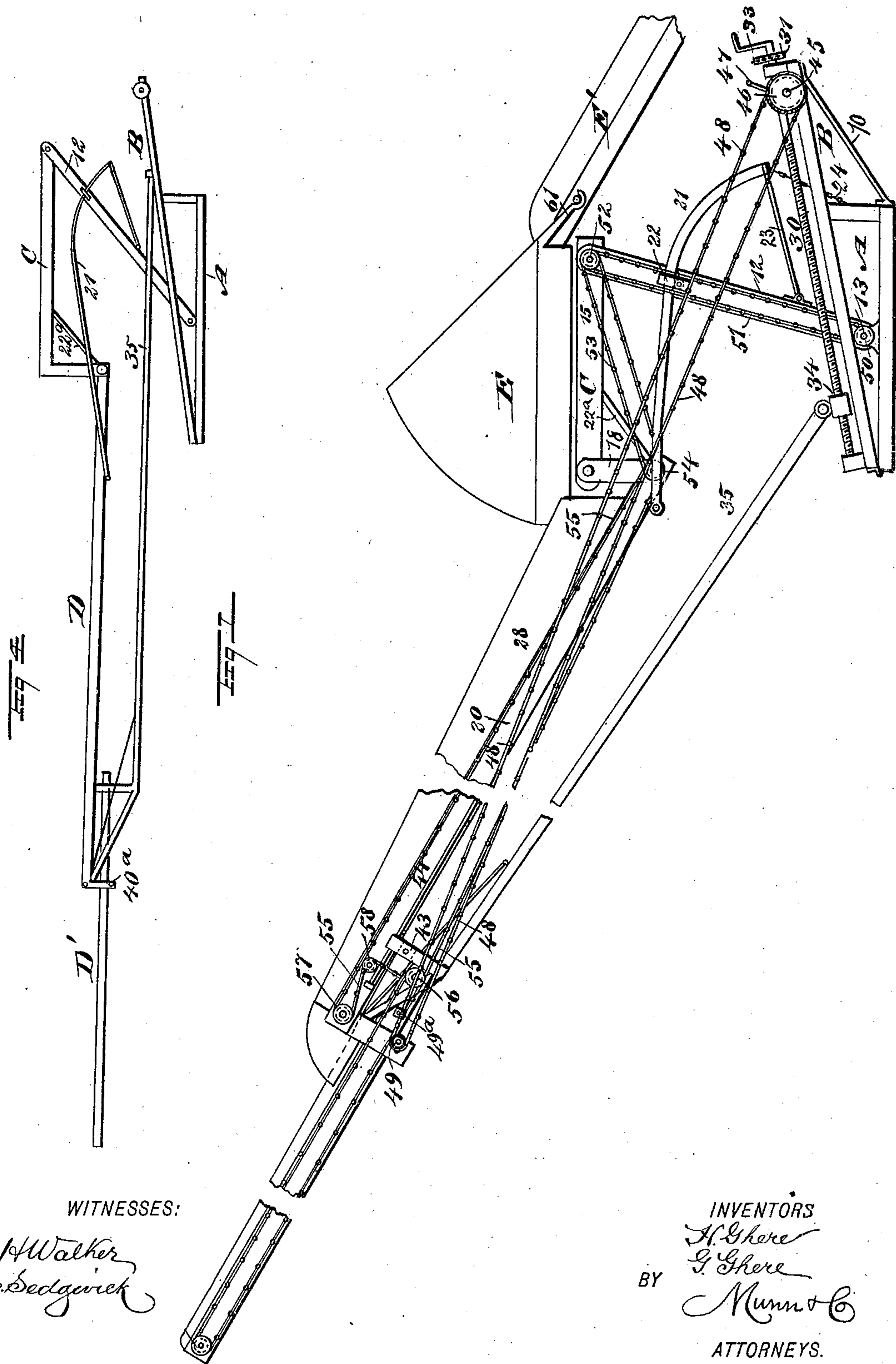
(No Model.)

2 Sheets—Sheet 1

H. & G. GHERE.  
STRAW CARRIER.

No. 504,212.

Patented Aug. 29, 1893.



WITNESSES:

H. Walker  
C. Sedgwick

INVENTORS  
H. Ghere  
G. Ghere  
BY  
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ATTORNEYS.

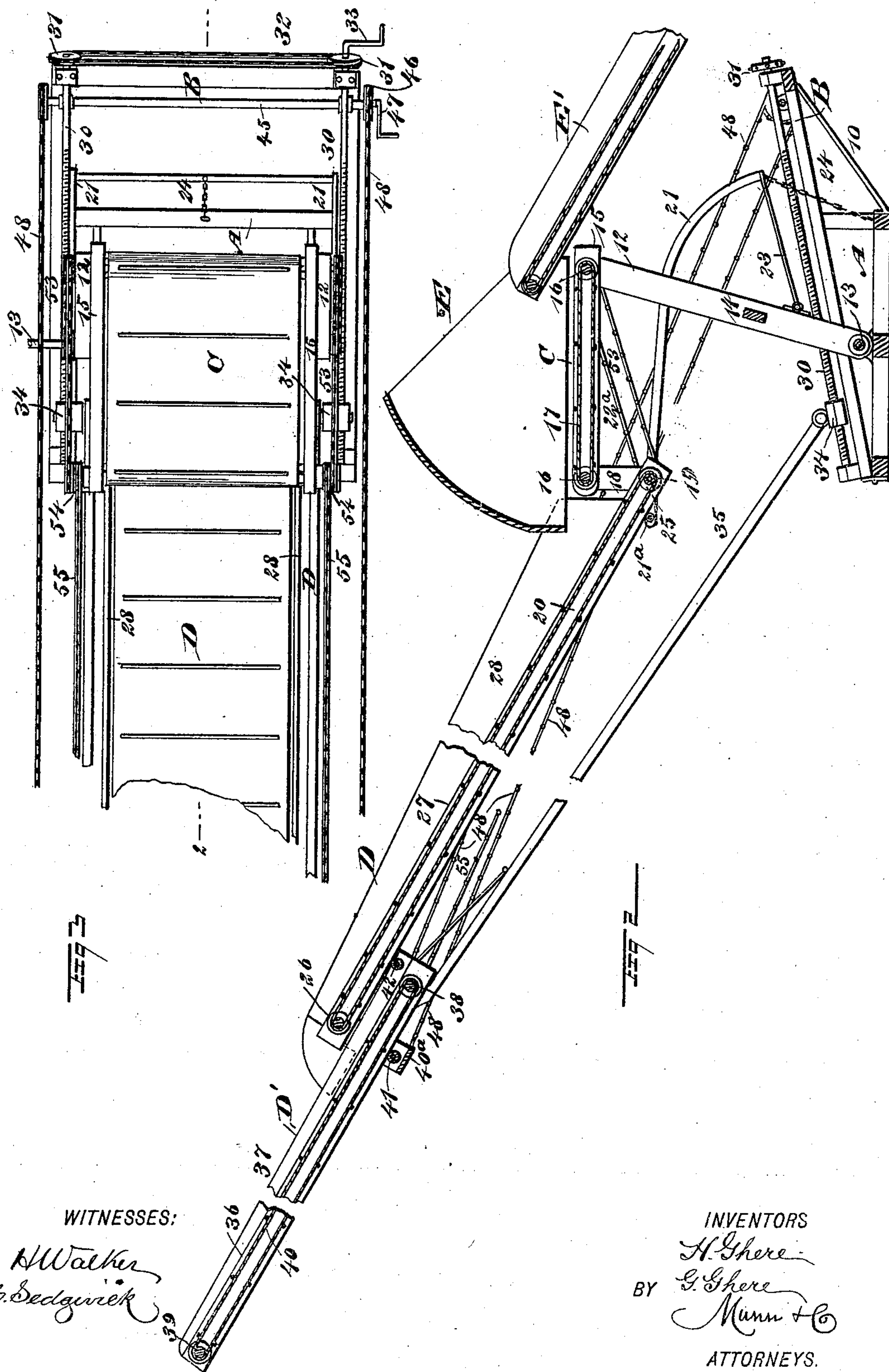
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# UNITED STATES PATENT OFFICE.

HOWARD GHERE AND GEORGE GHERE, OF FRANKFORT, INDIANA.

## STRAW-CARRIER.

SPECIFICATION forming part of Letters Patent No. 504,212, dated August 29, 1893.

Application filed July 29, 1892. Serial No. 441,580. (No model.)

*To all whom it may concern:*

Be it known that we, HOWARD GHERE and GEORGE GHERE, of Frankfort, in the county of Clinton and State of Indiana, have invented a new and Improved Level Table and Extension Straw-Carrier, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in level tables and extension straw carriers, and has for its object to provide a carrier capable of being expeditiously and conveniently applied or attached to any form of thrashing machine, and to so construct the carrier that it will be provided with a level table receiving the straw from the thrasher and delivering it to the elevators of the carrier.

Another object of the invention is to provide a means whereby the wind will be prevented from interfering with the operation of the transfer of the straw, and whereby also the body of the carrier may be made in two sections, one capable of being placed beneath the other, or made to extend a required distance beyond its outer end.

Another feature of the invention is to provide a simple and effective means whereby any desired inclination and elevation may be given to the elevator sections of the carrier, and whereby also the movable elevator section of the carrier may be readily and conveniently manipulated.

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 figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the machine. Fig. 2 is a central longitudinal vertical section, taken practically on the line 2—2 of Fig. 3. Fig. 3 is a plan view of the lower portion of the machine; and Fig. 4 is a side view of the framing of the machine, showing it in its folded position.

In carrying out the invention a base frame A, is provided, upon which an upper frame B, is supported in an inclined position, the upper frame B, being longer than the base frame, extending some distance in advance of it, and

the projecting end of the upper frame is supported by braces 10; the upper frame is also preferably somewhat wider than the base frame.

Upon the base frame two oppositely-located, upwardly-extending bars 12, are pivoted, and through the lower ends of the bars the drive shaft 13 of the carrier is passed, the shaft turning independently of the bars 12. The bars are ordinarily connected by a suitable cross rod 14, and horizontal beams 15, are secured at their forward ends to the upper extremities of the upright bars 12. The beams 15, constitute the side bars of a level table C, and this table is constructed by journaling drums or rollers 16, between the beams at their ends, and over these drums or rollers an endless belt or apron 17, is passed, the outer faces of the apron being provided with cleats, ribs, or the equivalents thereof, so as to prevent material delivered to the apron from slipping therefrom until the material is carried over one of the rollers. Arms 18, are securely attached to the rear end portions of the level table C, and these arms are connected by a shaft 19, upon which shaft the side beams 20 of the elevator portion of the machine are pivoted, the elevator portion of the machine being made in two sections D and D'. The section D, is the lower section, and this is the one that is pivoted upon the shaft 19, the section D', being adapted to slide upon and beneath the lower section. The side beams of the table are connected with its arms 18 by means of brace bars 22<sup>a</sup>.

From the forward extremities of the side beams 20 of the lower elevator section D, forwardly-curved arms 21, are projected, said arms being preferably made of metal; and these arms pass through guide straps 22, located upon the outer faces of the upright bars 12, supporting the level table. The arms 21, are connected by a rod or rods so as to strengthen them, and at their rear ends a roller 21<sup>a</sup>, is located, having bearing against the bottom of the lower elevator section D. Each arm is provided with an extension rod 23, carried rearward and hinged or pivoted to the forward edges of the upright bars 12, as shown in Figs. 1 and 2. These arms 21, are adapted as supports in conjunction with the upright bars 12 for the elevator portion of the machine;



and therefore the connected forward ends of the arms 21, are attached to the base frame A by means of a chain or chains 24. When the machine is to be folded up for transportation, the roller 21<sup>a</sup> of the arms 21 rides under and in engagement with the bottom of the lower elevator section; likewise when the said section is to be elevated the chains 24, the hinged braces 23, the sliding arms 21 and the straps 22 through which said arms pass, serve to maintain the parts of the machine at equal distances apart and in proper equilibrium whether the machine is extended to full length or folded up.

With reference to the lower elevator section D, upon the shaft 19 a drum 25, is secured; and at the upper end of the section a second roller or drum 26, is journaled, and an endless ribbed belt 27, is made to pass over the rollers or drums of this section, as shown in Fig. 2. To prevent material from passing over the side edges of this elevator section, side fenders 28, are secured to the upper side edges of the body of the section, and the fenders are continued beyond the upper edge thereof.

The elevating mechanism employed for the elevator sections consists of two screw shafts 30, held to turn in suitable bearings upon the upper inclined frame B; and these shafts at their outer or forward ends are preferably provided with sprocket wheels 31, attached thereto, whereby both shafts may be connected by a chain belt 32, and one of the shafts is provided with a crank arm 33, or the equivalent thereof, so that by revolving one of the screw shafts both will be revolved in unison. Each screw shaft carries a traveling block 34, and this block remains stationary upon the screw shafts except when the shafts are revolved. Each block is pivotally connected with the rear end of a brace or supporting rod 35, the upper ends of these rods being pivotally attached to the outer side faces of the lower elevator section B, at or near the upper end of the latter.

As has heretofore been stated, the lower elevator section carries an upper one, which may be termed the extension section, and this extension section comprises side beams 36, carrying fenders 37, but much narrower than the fenders of the lower section; and between the side beams, at their extremities, rollers or drums are journaled, designated respectively as 38 and 39, and over these drums or rollers an endless ribbed belt or apron 40, is passed. At the upper end of the lower elevator section D, a stirrup 40<sup>a</sup>, is secured, the stirrup being provided near its lower portion with a friction roller 41, extending through from side to side; and the extension section D', is made to pass through the stirrup upon the friction roller 41. The lower or forward end of the extension section, at its upper edge, is provided also with a friction roller 42, which engages with the bottom sur-

face of the lower elevator section, thus providing for a minimum of friction, while upon the outer sides of the extension section, at or near its lower end, guide brackets 43 are secured, in which guide brackets the trunnions of the roller have bearing, and the upper ends of the brackets are bent in such manner as to travel over and upon tracks 44, formed upon the outer side surfaces of the fixed or lower elevator section, as shown in Fig. 1. Thus through the medium of the stirrup, the brackets and the rail, the two elevator sections are made to travel one in close engagement with the other, and there is no lateral or vertical play in their connections.

The mechanism for projecting the extension section of the elevator beyond the upper end of the lower section is preferably of the following character: In the forward portion of the upper inclined frame B, a shaft 45, is journaled, which shaft may be termed the winding shaft, as it carries at each end a pulley 46, and at one end a crank arm 47. The pulleys are adapted to carry chain belts; therefore they are essentially sprocket wheels, and over each of the wheels a chain belt or rope 48, is passed. One end of these belts is carried upward over a friction pulley 49, located upon the outer face of the stirrup, as shown in Fig. 1, and is attached firmly to blocks 49<sup>a</sup>, on the outer sides of the upper elevator section, near the lower end thereof, while the other ends of the belts are carried directly to the blocks and secured thereto. By turning the shaft 45 in one direction it is evident that the extension section of the elevator will be forced upward, and when the shaft is released the upper elevator section will fall downward by gravitation beneath the lower elevator section. Therefore, in order to hold the upper section in the desired position, any approved form of brake or locking device is applied to the winding shaft.

The drive shaft 13, has a pulley 50, at each of its ends, and these pulleys are connected by chain belts 51 with a pulley located upon the trunnions of the forward drum or roller 16 of the level table; and by this means the apron of that table is rotated. A sprocket wheel 52, is also attached to this trunnion.

I desire it to be understood that the pulleys, sprocket wheels and driving belts are duplicated at each side of the machine. Each of the sprocket wheels 52, is connected by a chain belt 53, with a sprocket wheel located upon the shaft 19 at the bottom of the lower elevator section, a sprocket wheel being located at each end of this shaft. This shaft, at each of its ends, also carries a second sprocket wheel 54, and these sprocket wheels carry endless belts 55, these belts being adapted to drive the lower drum of the upper or extension elevator section, the lower drum of this section being provided to that end with two sprocket wheels at each end, the outer sprocket wheel being designated as 56. These



belts pass over the sprocket wheels 54, upward over sprocket wheels 57 attached to the upper drums or rollers of the lower elevator sections; thence they pass downward around a sprocket wheel connected with the lower drum of the extension elevator section, and from this sprocket wheel back to the wheel 54, as shown in Fig. 1.

A hood E, is placed over the level table, and is supported in that position by attachment to the delivery apron E' of the thrashing machine, as shown in Fig. 1, which delivery apron extends up over the level table, and within the hood, as shown in Figs. 1 and 2. The usual connection between the hood and the frame of the delivery apron of the thrashing machine is effected by projecting hook-like arms 61 from the forward lower portion of the hood to engage with stops placed upon the frame of the said apron E'.

It is evident that a machine of the construction above described is applicable to any thrashing machine, and may be employed for stacking straw wherever its services may be required.

The machine is simple, it is durable, and it is economic in construction, and when not in use will take up but little room, as the two sections of the elevator portion may be placed one beneath the other in compact shape, and the table may be folded downward somewhat flat when the chains 24, are disconnected from the base frame, owing to the supports of the table being pivoted to the latter frame. The level table, as its name implies, will always be horizontally located whether it is raised or whether it is lowered. The sprocket wheels and chain belts shown may if desirable be substituted by pulleys and ropes or other forms of belting.

Having thus described our invention, we

claim as new and desire to secure by Letters Patent—

1. In a machine of the character described, the combination, with a table and a support maintaining the table in a horizontal position, the table being provided with a revolving belt section, an elevator located beneath the table and pivoted thereto, and a second elevator having sliding movement beneath the upper one and capable of passing beneath it or of being extended beyond its upper end, of a base, adjusting screws journaled upon the base, a driving mechanism connecting the screws, traveling blocks carried by the screws, and arms pivoted to the blocks and connected with the upper portion of the lower elevator, whereby both elevators may be raised or lowered, and a winding mechanism carried by the base and connected with the upper elevator, whereby said elevator may be extended beyond the lower one, as and for the purpose set forth.

2. In a machine of the character described, the combination, with a horizontal table provided with an endless belt section adapted to receive material from a thrasher, and a hood located above the table and removable therefrom, of two elevators, the lower one of which is pivoted beneath the table, the upper elevator having sliding connection with the lower one, and a winding mechanism connected with the upper elevator, whereby both elevators may be raised or lowered, and the upper elevator may be carried beneath the lower elevator, or may extend beyond its upper end, as and for the purpose specified.

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Witnesses:

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