July 24, 1923. 1,462,996

G. N. ALLEN ET AL

MANURE SPREADER BODY CONSTRUCTION

Filed Feb. 2, 1922

Fig. 1.

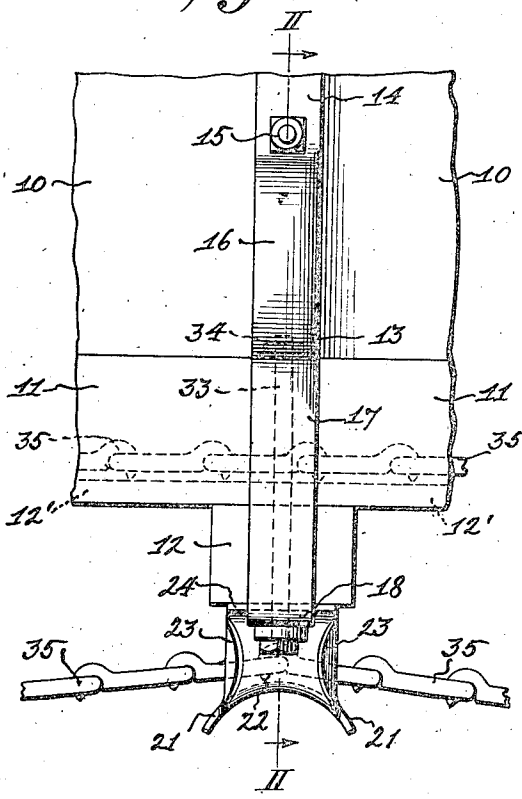


Fig. 2.

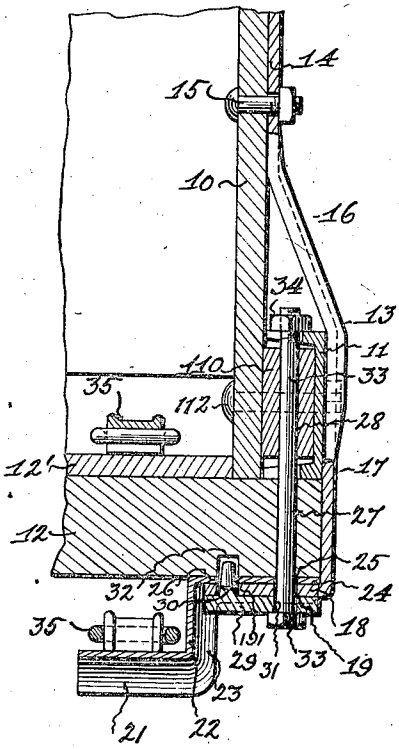


Fig. 3.

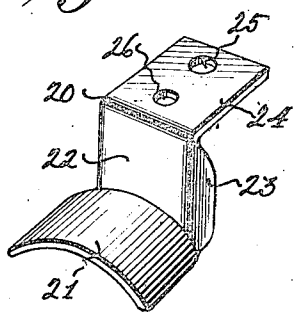
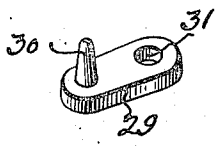


Fig. 4.



Inventor

George Norwood Allen,

Eugene H. Benway,

By W. Gelvenborn.

Attorney

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UNITED STATES PATENT OFFICE.

GEORGE NORWOOD ALLEN AND EUGENE H. BENWAY, OF HOOSICK FALLS, NEW YORK, ASSIGNORS TO WALTER A. WOOD MOWING & REAPING MACHINE COMPANY, OF HOOSICK FALLS, NEW YORK, A CORPORATION OF NEW YORK.

MANURE-SPREADER-BODY CONSTRUCTION.

Application filed February 2, 1922. Serial No. 533,721.

To all whom it may concern:

Be it known that we, GEORGE NORWOOD ALLEN and EUGENE H. BENWAY, citizens of the United States, residing at Hoosick Falls, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Manure-Spreader-Body Constructions, of which the following is a specification.

This invention relates to means for rigidly securing in position the sideboards to the spreader bed or sills of the body and holding and guiding the endless chains carrying the conveyer apron of a manure spreader.

The objects of the invention are:

First, to provide a minimum number of simple parts so that the assembling or disassembling the body or box of the spreader is greatly facilitated.

Second, to provide means in which the side-boards of the body are held in rigid and fixed position by a single bolt at each side brace of said body, and said bolt also secures or ties the cross piece to the sill of the body.

Third, a construction and arrangement of parts which cooperate with the single bolt above referred to so that no extra bolt or other fastening means is necessary to hold the support or guide for the endless chains carrying the conveyer apron of the manure spreader.

Fourth, other objects and advantages of the invention will appear from the detailed description of the construction, arrangement and manner of assembling the parts to be hereinafter given.

The invention consists in the structural characteristics, relative arrangement and combinations of elements hereinafter more fully disclosed and particularly pointed out in the appended claims.

Referring to the drawings, in which similar reference characters indicate the same parts in the several figures:

Figure 1 is a side view of a section of bed or body of a manure spreader with the present invention applied.

Figure 2 is a section on line II—II of Figure 1

Figure 3 is a perspective view of the conveyer or chain support, and

Figure 4 is a perspective view of the tie block forming an element of the invention.

Referring to the drawings, 10 represents a section of the side-boards, and 11 a sill, preferably made of a channel iron on each side of the body or bed of the manure spreader, and said side-boards while shown of wood may be made of steel or iron if so desired, and 12 is one of the transverse cross pieces or bottom cleats arranged at intervals under the body adapted to support the bottom 12′ and secured to the sill 11 on each side of the body, as will be presently described. Within the channel iron or sill 11 and interposed between the lower section of the side-boards 10 and sills 11 is a reinforcing longitudinal strip 110, preferably made of wood, said sill 11 and strip 110 being secured together and to the side-boards 10 at separated points along the body by bolts 112.

Along both sides of the body and at each section provided with a transverse cross piece 12 is a metallic brace 13, preferably semi-circular in cross section and bent and formed as shown, so that its upper end 14 can be secured by means of rivets or bolts 15 to the side-boards 10, while its free section 16 is at an angle and acts as a brace or strut against the outside of said side-boards 10, which construction and arrangement not only rigidly holds said side-boards firmly against the spreader bed or sills 11, but said braces 13 resist any outward pressure against the side-boards caused by the load or manure placed within the spreader box. The lower section of the brace 13 is made upright and arranged to come in contact with the vertical outer side of the sill 11 and end of the cross piece 12, while the lower end 18 of the brace 13 is bent at right angles to pass under the end of the cross piece or bottom cleat 12, as shown, and is provided with holes 19 and 191 for purposes to be presently described.

20 is a conveyer chain support preferably made of steel and provided with a curved section 21, and an upright portion 22 having integral side guide flanges 23, 23, and a horizontal extension 24 having holes 25 and 26, as clearly shown in Figure 3. Said conveyer chain support is arranged so that the exten-

sion 24 is in contact with the underside of the cross piece or bottom cleat 12 and preferably interposed but not necessarily between the lower bent end 18 of the brace 13 and said cross piece 12 with its holes 25 and 26 registering respectively with the holes 19 and 191 in the end 18 and the superimposed registering holes 27 and 28 in the cross piece or cleat 12 and reinforcing sill 11, respectively as shown in Figure 2. A tie block 29 having a projection 30 near one end and a hole 31 near the opposite end, shown in Figure 4, is placed in contact with the underside of the bent end 18 of the brace 13, so that its hole 31 registers with the holes 19 and 25 in the bent end 18 and horizontal extension 24, respectively, while the projection 30 of said tie block 29 passes upwardly through the registering holes 191 and 26, respectively, in bent end 18 and in the horizontal extension 24 of the chain support 20 into a circular recess or socket 32 formed in the underside of the cross piece or cleat 12 as indicated.

A tie bolt 33 is passed through the registering holes 31, 19, 25, 27 and 28, respectively, in the tie block 29, bent end 18 of brace 13, horizontal extension 24 of conveyer chain support 20, cross piece 12, and sill 11, and after the nut 34 on the upper end of said tie bolt 33 is tightened up, said sill 11 is not only fastened securely and tied to the bottom cleats or cross pieces 12, but at the same time this single bolt 33 securely and firmly locks and holds the side-board brace 13, tie block 29 and chain support 20 at each section in their proper position with each other and the body, so that the side-boards 10 are rigidly braced and insured against spreading, and the conveyer chain 35 is enabled under all conditions of service to be properly carried by and move over the curved surface of section 21 of the chain support 20, thereby eliminating the use of rollers, as is common in this class of devices.

From the foregoing description of the construction and arrangement of parts and mode of assembling the same, it will be readily seen that a manure spreader body construction has been devised which comprises a minimum number of highly efficient cooperating elements of simple construction, which can be cheaply manufactured and readily installed or assembled or disassembled without the use of skilled labor or special tools, and said elements are of small size and of such shapes as to enable the same to be easily packed in a compact form for shipment or storage.

It will also be seen that all the objects and advantages recited in the statement of invention has been fully carried out, and while the preferred form has been shown and described, it is to be understood that many changes will suggest themselves, as, for example, omitting the tie block 29, without in any way changing the essential features of construction or departing from the spirit of the invention as expressed in the claims.

What we claim is:—

1. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a brace having one end connected to said side-board and its other end passing under said bottom cleat, and a tie bolt passing through said sill, bottom cleat and brace under the bottom cleat, whereby said sill, bottom cleat and brace are rigidly and immovably clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

2. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a conveyer chain support under and in contact with said bottom cleat, a brace having one end connected to said side-board and its other end passing under said bottom cleat and under and in contactw ith the conveyer chain support, and a tie bolt passing through said sill, bottom cleat, conveyor chain support, and brace under the bottom cleat, whereby said sill, bottom cleat, brace, and conveyer chain support are rigidly and immovably clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

3. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a brace having one end connected to said side-board and its other end passing under said bottom cleat, a tie block below and in contact with the brace and under the bottom cleat and engaging said brace and bottom cleat, and a tie bolt passing through said sill, bottom cleat, tie block, and brace under the bottom cleat, whereby said sill, bottom cleat, brace, and tie block are rigidly and immovably clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

4. A manure spreader comprising a body having a sill provided with an opening, a bottom cleat having an opening and arranged below and transversely to said sill, a side-board resting on and above said cleat, a conveyer chain support under and in contact with said bottom cleat and provided with an opening registering with openings in said sill and cleat, a brace having one end connected to said side-board and its other end provided with an opening registering with opening in said chain support and

passing under said bottom cleat and in contact with the conveyer chain support, and a tie bolt passing through the registering openings in said sill, bottom cleat and brace under the bottom cleat, whereby said sill, bottom cleat, brace and conveyer chain support are rigidly and immovably clamped together by a single tie bolt and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

5. A manure spreader comprising a body having a sill provided with an opening, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a conveyer chain support under and in contact with said bottom cleat and provided with an opening registering with opening in said sill, a brace having one end connected to said side-board and its other end provided with an opening registering with opening in said sill and passing under said bottom cleat and in contact with the conveyer chain support, a tie block having an opening registering with the opening in the brace and below and in contact with the end of the brace under the bottom cleat, and a tie bolt passing through the registering openings in said sill, bottom cleat, conveyer chain support, tie block, and brace under the bottom cleat, whereby said sill, bottom cleat, brace, tie block, and conveyer chain support are rigidly and immovably clamped together by a single tie bolt and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

6. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a conveyer chain support having an opening and under said bottom cleat, a brace having one end connected to said side-board and its other end passing under said bottom cleat and in contact with the conveyer chain support, a tie block having a projection seated in the opening of said chain support and disposed below said bottom cleat, and a tie bolt passing through said sill, bottom cleat, conveyer chain support, tie block, and brace under the bottom cleat, whereby said sill, bottom cleat, brace, tie block, and conveyer chain support are rigidly and transversely clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

7. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely to said sill, a side-board resting on and above said cleat, a conveyer chain support under said bottom cleat, a brace having one end connected to said side-board and its other end passing under said bottom cleat, and means so constructed and arranged to engage said sill, bottom cleat and brace under the bottom cleat, whereby said sill, bottom cleat, brace and conveyer chain support are rigidly and immovably clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

8. A manure spreader comprising a body having a sill, a bottom cleat arranged below and transversely of said sill, a side-board resting on and above said cleat, a conveyer chain support having an inner and an outer opening and under said bottom cleat, a brace having one end connected to said sideboard and its other end having an inner and outer opening and passing under said bottom cleat and in contact with the conveyer chain support, a tie block having an opening and a projection seated in the inner openings of said chain support and a brace and disposed below said bottom cleat, and a tie bolt passing through said sill, bottom cleat, and openings in said conveyer chain support, tie block, and brace under the bottom cleat, whereby said sill, bottom cleat, brace, tie block, and conveyer chain support are rigidly and transversely clamped together and said side-board is firmly secured to said sill and braced against a spreading action due to any weight of material carried within the body.

In testimony whereof we hereunto affix our signatures.

GEORGE NORWOOD ALLEN.
EUGENE H. BENWAY.