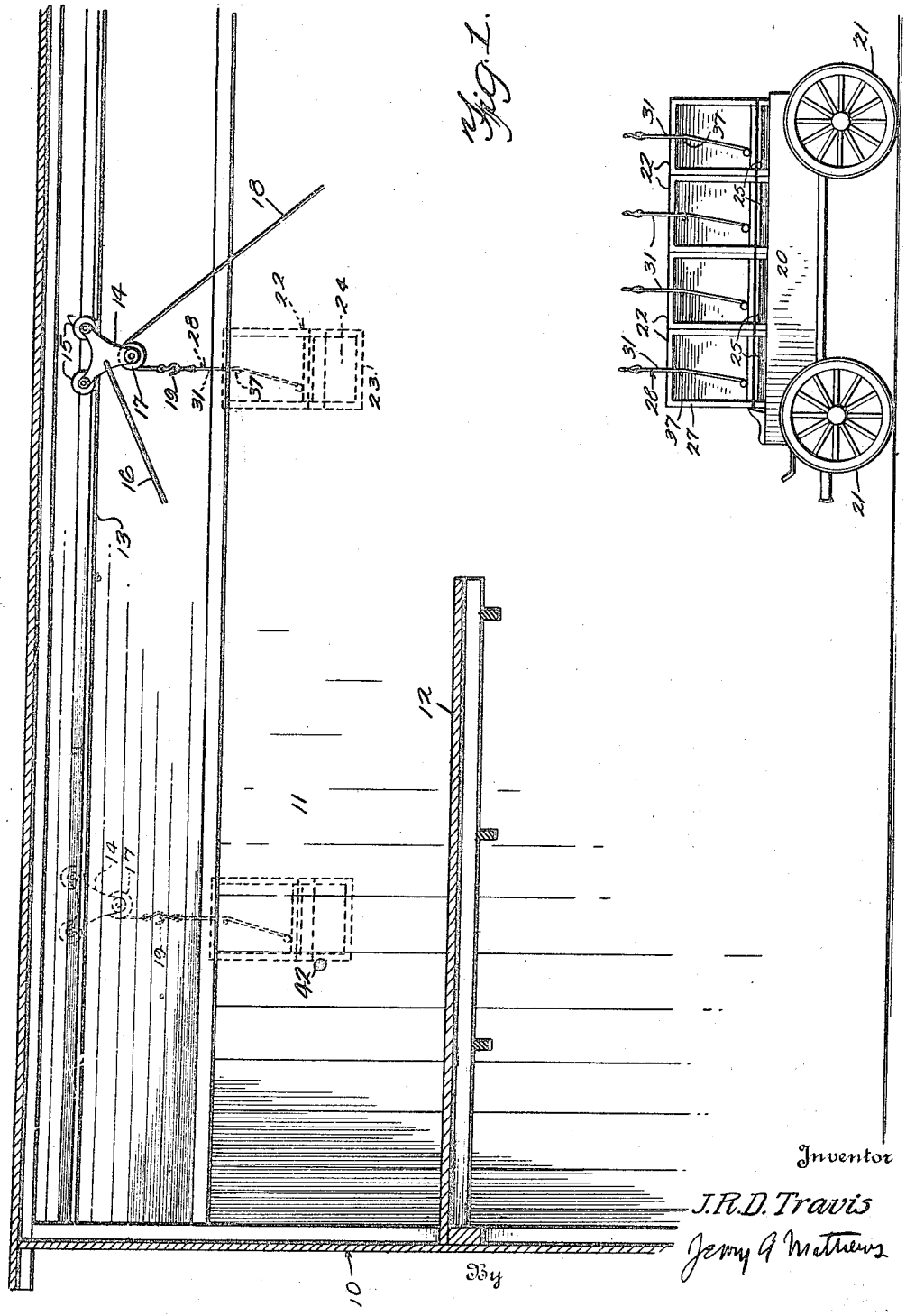
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J. R. D. TRAVIS

GRAIN HANDLING APPARATUS

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Fig. 3.

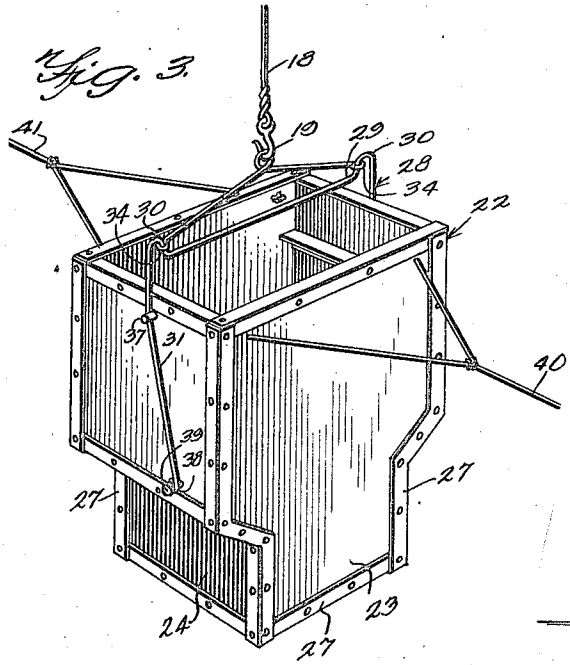


Fig. 2.

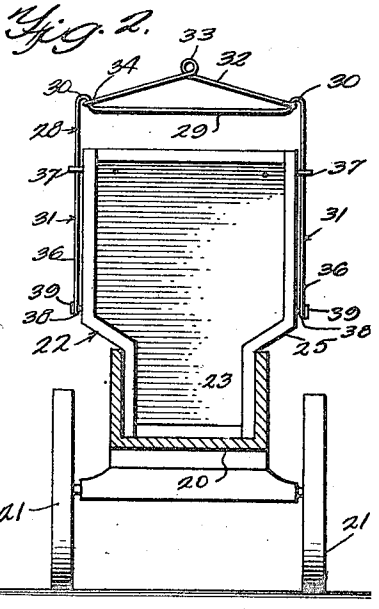


Fig. 4.

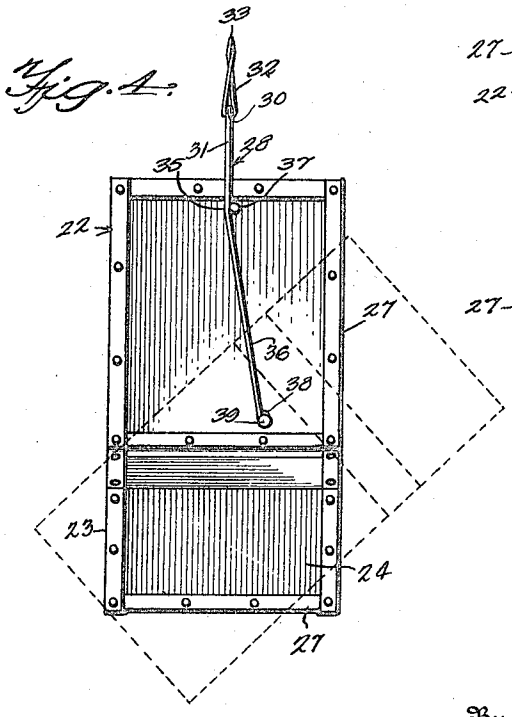
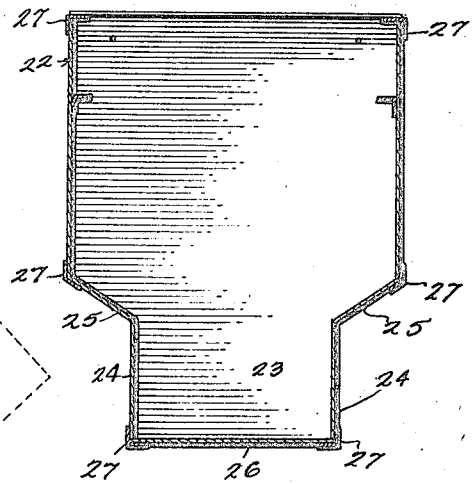


Fig. 5.



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Patented Dec. 18, 1923.

1,478,269

UNITED STATES PATENT OFFICE.

JOHN R. D. TRAVIS, OF CLIO, IOWA.

GRAIN-HANDLING APPARATUS.

Application filed December 30, 1922. Serial No. 610,028.

To all whom it may concern:

Be it known that I, JOHN R. D. TRAVIS, a citizen of the United States, residing at Clio, in the county of Wayne and State of Iowa, have invented certain new and useful Improvements in Grain-Handling Apparatus, of which the following is a specification.

My invention relates to grain handling and dumping apparatus.

An important object of the invention is to provide apparatus of the above mentioned character so constructed that the capacity of the ordinary wagon employed to haul the grain is increased, and the grain may be conveyed, elevated, and dumped, in a highly convenient and expeditious manner.

A further object of the invention is to provide apparatus of the above mentioned character, which may be used in connection with the ordinary hay elevating and conveying equipment, frequently found in barns.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same.

Figure 1 is a side elevation of apparatus embodying my invention.

Figure 2 is an end elevation of one of the boxes or receptacles,

Figure 3 is a perspective view of the same,

Figure 4 is a side elevation of the same, and,

Figure 5 is a vertical longitudinal transverse sectional view through the box, parts omitted.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates a barn, having the usual loft 11 with the floor or bottom 12. The numeral 13 designates a track suitably supported in the top or roof of the barn and a carriage 14 is equipped with wheels 15, traveling upon the track 13. The carriage 14 may be moved longitudinally of the track by any suitable means and for this purpose I have shown a line or rope 16 secured to the carriage 14. The numeral 17 designates a pulley rotatable in the lower end of the carriage 14 and a hoisting line or cable 18 passes about the pulley 17, and is equiped with a hook 19, as shown.

The numeral 20 designates the body of an ordinary grain wagon, mounted upon wheels 21, as is customary.

My invention embodies a plurality of boxes or receptacles 22, which are identical. Each box has a lower reduced portion 23, having side walls 24, which are perpendicular, and are adapted to engage snugly within the side walls of the wagon body 20. The side walls 24 extend upwardly for the entire height of the wagon body, and then diverge outwardly and upwardly into inclined portions 25, providing the enlarged upper portion 26 of the box. This enlarged upper portion projects laterally outwardly beyond the sides of the wagon body, and also projects upwardly beyond the same for any desired distance. As clearly shown in Figure 1, any suitable number of these boxes may be removably mounted within the wagon body, and due to the shape and size of these boxes, their combined capacity greatly exceeds the capacity of the wagon body. The bottom of each box is closed, as indicated at 26 while its top is entirely open. Each box is permanently reinforced by angle irons 27, at the edges thereof, as shown.

The numeral 28 designates a bail for each box. This bail embodies an upper transverse portion 29, provided at its ends with inverted U-shaped portions 30, from which the side arms 31 depend. The numeral 32 designates a suspension element, formed of a rod bent between its ends to produce an eye 33, and bent at its ends into eyes 34, which receive the inner sides of the U-shaped portions 30. The hook 19 is adapted for insertion within the eye 33. The function of the upper transverse portion 29 with the U-shaped portions 30 is to provide a rigid construction which will prevent the arms 31 being forced inwardly, to unduly frictionally engage the side of the box, so that it will not turn freely.

Each side arm 31 is bent at a point 35 so that its lower portion 36 is inclined or oblique from the perpendicular. The side arms 31 contact with stop pins or trunnions 37, adjacent to the point 35, while the lower ends of the inclined portions 36 are bent into eyes 38, pivotally receiving headed pins 39, rigidly secured to the lower portions of

the sides of the box. The pins 39 are arranged out of vertical alinement with the stops 37, as clearly shown.

The numerals 40 and 41 designate guy cables or lines, attached to the ends of the box, near its top. The numeral 42 designates a trip element, in the form of a pole, which may be suitably supported within the loft of the barn, and arranged in the path of travel of the box.

In use of the apparatus, the wagon filled with the boxes may be driven into the barn, as indicated in Figure 1, and each box connected with the cable 18. The box is then elevated and while in this position is moved longitudinally of the track. The box will contact with the pole 42, during its longitudinal travel and the lower end of the box will be swung in the direction of the arrow, as shown in Figure 1. The box will thereby be automatically dumped. The construction of the side members 31 and the location of the stops 37 and pivots 39, are such that the box is securely held in the active position, until automatically tripped. The guy lines are employed in guiding the box and may be advantageously used in returning the box to the position within the wagon body, after it is dumped.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In grain handling apparatus, the combination with a wagon having a body, of a plurality of boxes having lower contracted portions removably mounted within said body, a bail pivotally connected with each box upon opposite sides thereof below its center of gravity and to one side of the longitudinal center of the box, stops carried by the sides of the box to engage with the bail and arranged near the longitudinal center of the box, hoisting and conveying means to engage with the bail, and a trip element arranged in the path of travel of the box beneath the bail.

2. In grain handling apparatus, a box, a bail having a transverse portion provided at its ends with inverted U-shaped parts and arms depending from said parts, said arms having lower inclined portions, a transverse element provided with an eye near its center and having eyes at its ends to engage the inverted U-shaped parts, means pivotally connecting the lower ends of said arms with the box below its center of gravity and upon one side of its longitudinal center, stops carried by the box near its upper end and near its longitudinal center to engage with said arms, and hoisting means to engage the eye of the transverse element.

In testimony whereof I affix my signature.

JOHN R. D. TRAVIS.