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LOADER FOR LOOSE GRAIN

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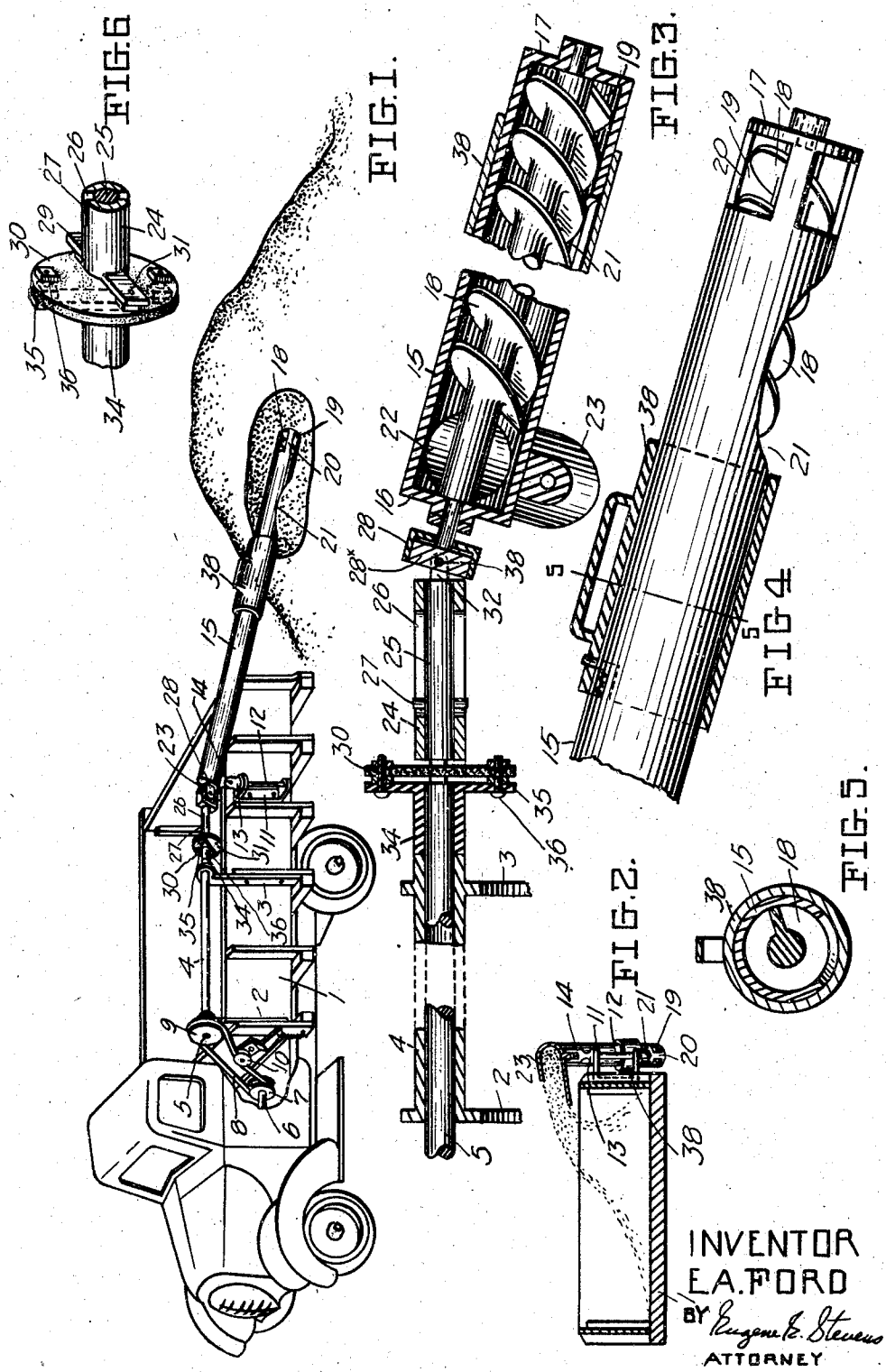


FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4

FIG. 5.

FIG. 6

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LOADER FOR LOOSE GRAIN

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1 Claim. (Cl. 214—83)

My invention relates to improvements in loaders for loose grain and the object of the invention is to devise a loader which will dispense with shovelling of grain when loading the truck from a granary or other grain supply source, which may be applied to any ordinary standard truck body without any alteration of the truck, which may be attached to or detached from the truck in a short space of time and by one man and does not, when connected to the truck, take up any pay load space and is at the same time simple, cheap and easily operated and it consists of the arrangement and construction of parts hereinafter described.

Fig. 1 is a perspective view of a truck and my loader attached thereto.

Fig. 2 is a cross sectional view through the truck and loader taken behind the rear truck wheels.

Fig. 3 is an enlarged sectional perspective detail of the main parts of the loader broken away intermediately of their length.

Fig. 4 is a detail view of the rear or feed end of the conveyor tube and showing the covering sleeve in section.

Fig. 5 is a cross sectional view on line 5—5, Fig. 4.

Fig. 6 is an enlarged perspective detail of the flexible connection between the telescopic portion of the driving shaft and the drive shaft proper.

In the drawing like characters of reference indicate corresponding parts in the different views.

1 is a truck body on the side of which are mounted bearing brackets 2 and 3 carrying a bearing sleeve 4 in which is journalled a driving shaft 5. 6 is the engine shaft to which is secured a pulley 7 connected by a driving belt 8 to a pulley 9 secured to the shaft 5. 10 is a belt tightener.

11 is a bracket in which is mounted a vertical spindle 12 having a head 13 forming a fork 14. 15 is a conveyor tube in the heads 16 and 17 of which is journalled the spiral conveyor 18. 19 are openings formed in the lower end of the tube by the legs 20.

21 is an elongated opening formed in the lower peripheral portion of the conveyor tube. The upper end of the conveyor tube is provided with a discharge opening 22 from which leads a discharge spout 23 for discharging the wheat into the truck body as clearly illustrated in Fig. 2.

24 and 25 are inner and outer members of a telescopic shaft, the outer member 24 being provided with longitudinal slots 26 and the inner member with projections 27 slidably fitting such slots. The member 25 is connected by a universal joint 28, 28^x to the shaft of the spiral conveyor 18.

The opposite end of the member 24 is provided with arms 29 extending diametrically of a circular flexible disc 30 and secured thereto by bolts 31 (see Fig. 6). The member 25 is freely slidable within the member 24 and its movement is limited by the projections 27 sliding in the slots 26.

The end of the member 25 adjacent the head 16 of the conveyor tube 15 is provided with a fork 32 pivoted to the universal joint member 28^x at 33. 34 is a sleeve secured to the rear end of the shaft 5. The sleeve 34 is provided with arms 35 extending adjacent to the disc 30 and secured thereto by bolts 36. The arms 29 and 35 extend at right angles to each other as clearly shown in Fig. 6.

When the wheat in the bin is loaded into a truck the feed end of the tube 15 is laid on the top of the grain pile in the bin and the truck engine started to drive the shaft 6. The conveyor 18 is rotated by means of the driving shaft 5 connected to the shaft 6 by the belt drive 8, and the flexible connection including the disc 30, the telescopic shaft members 24 and 25 and the universal joint 28, 28^x.

The grain is drawn by the conveyor through the orifice 21 thus removing the wheat from beneath the tube 15 allowing it to gradually sink to the bottom of the grain pile, the grain also being drawn through the orifices 19 by the conveyor.

When the wheat or other grain is removed to the extent that the orifice 21 is exposed by the tube resting on the bin bottom, the sleeve 38 is slid down the tube to a covering position over the orifice 21 thereby allowing the wheat to be drawn by the conveyor through the orifices 19 alone to pass up the tube and past the orifice 21.

As the wheat is carried to the top of the tube it is discharged laterally by the spout 23 into the truck body 1.

From this description it will be seen that I have devised a loader for loose grain by which a truck may be quickly loaded without labour, which dispenses with the shovelling of the grain from the bin into the truck, which may be readily applied to any standard truck, which may be easily and quickly attached to or detached from the truck and by one man, and which is simple and is not costly to construct.

What I claim as my invention is:

The combination with a truck body having side walls, of brackets secured to the outside of the side walls and having bearing ends extending outwardly therefrom, a drive shaft journalled in such ends so as to extend parallel with the side wall and be spaced outwardly therefrom, means mounted on the truck for driving the shaft, a vertical bracket also extending outwardly from the side wall adjacent its rear end, a vertical pivot pin mounted in the vertical bracket, an inclined screw conveyor, the casing of which is swingably mounted adjacent its upper end on the upper end of the vertical pin, and a flexible drive connection between the drive shaft and the screw of the conveyor.

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