Dec. 23, 1924. 1,520,175

B. E. COLLINS

HOISTING AND CONVEYING DEVICE

Filed March 3, 1924 2 Sheets-Sheet 1

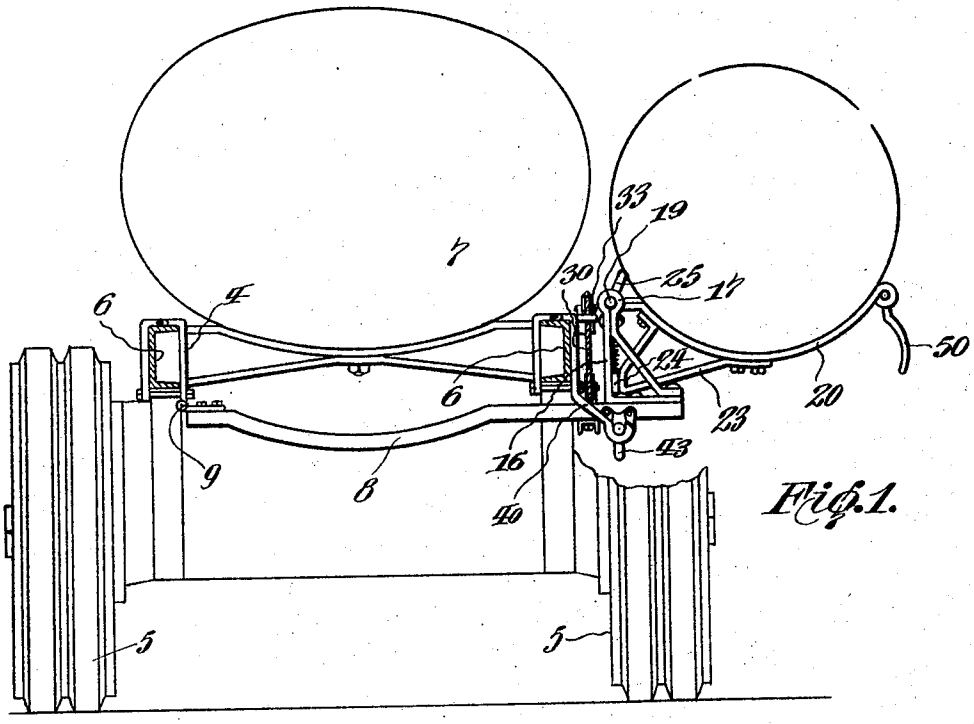

Fig. 1.

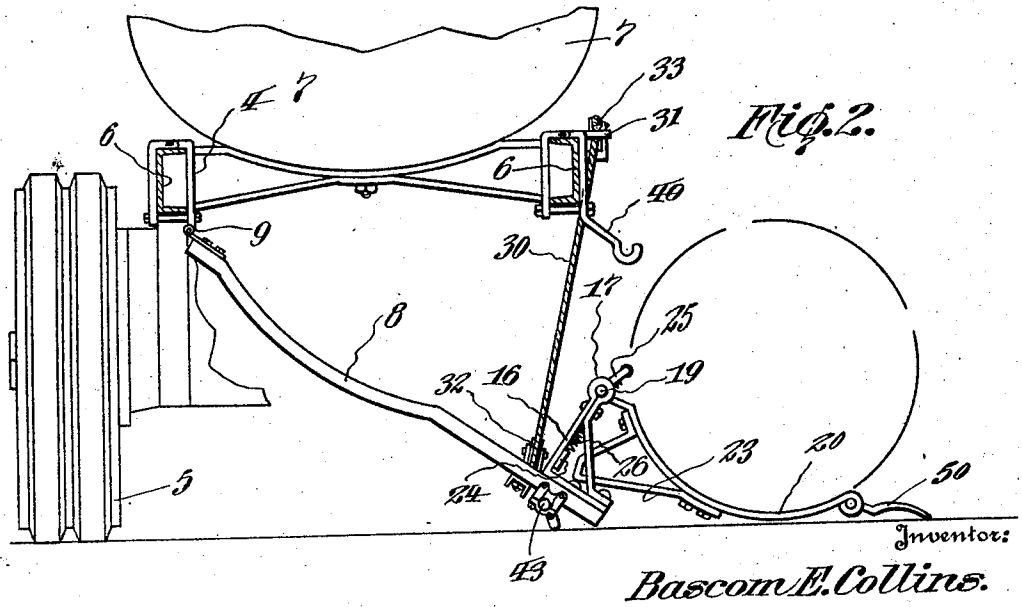

Fig. 2.

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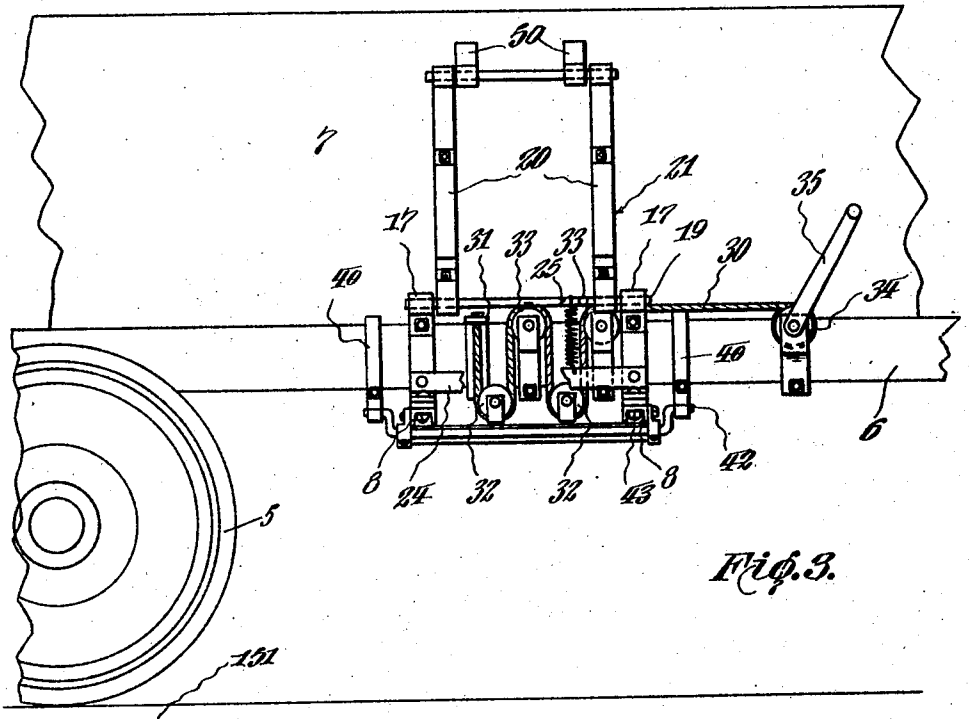

Fig. 3.

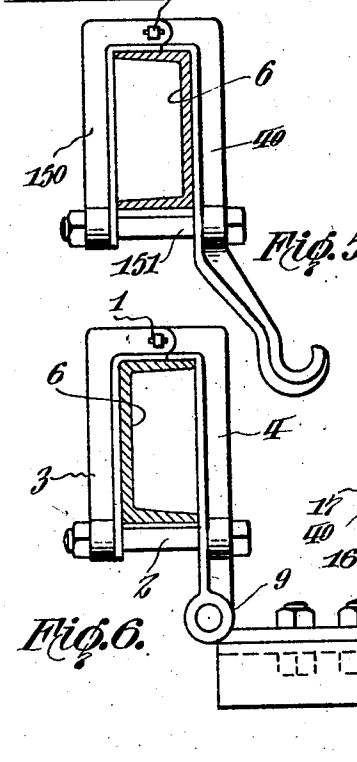

Fig. 5.

Fig. 6.

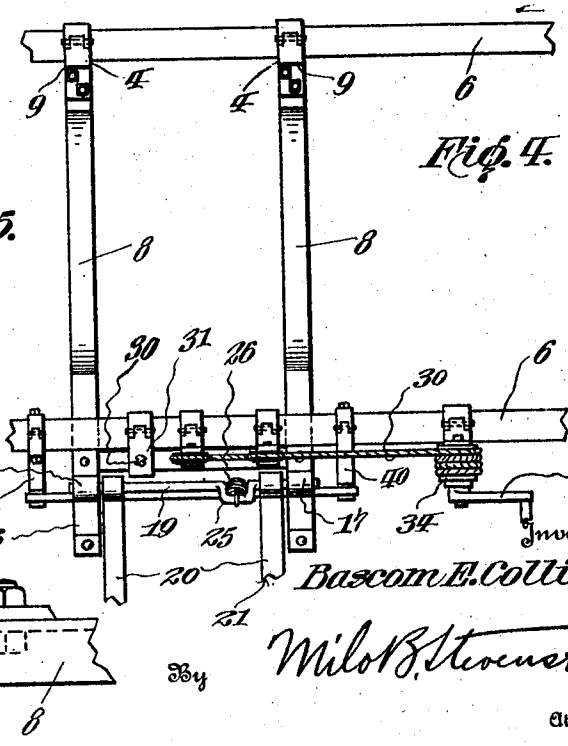

Fig. 4.

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UNITED STATES PATENT OFFICE.

BASCOM E. COLLINS, OF CAINESVILLE, MISSOURI.

HOISTING AND CONVEYING DEVICE.

Application filed March 3, 1924. Serial No. 696,709.

To all whom it may concern:

Be it known that I, BASCOM E. COLLINS, a citizen of the United States, residing at Cainesville, in the county of Harrison and State of Missouri, have invented new and useful Improvements in Hoisting and Conveying Devices, of which the following is a specification.

This invention relates to hoisting and carrying devices especially adapted for use on vehicles though not necessarily restricted to such use.

Briefly stated an important object of this invention is to provide a device of the character specified having simple means to hoist a barrel or the like and support the same at one side of a tank wagon or truck in such a manner that the same will not be lost during the travel of the vehicle.

A further object is to provide a hoisting and carrying device in which the use of skids or runners is overcome and in which novel means are provided to lower the barrel to the ground when desired.

A further object is to provide a hoisting and carrying device which is a highly simplified construction, durable in use and which may be applied to a standard tank vehicle without elaborately changing the construction of the same.

Also an important aim of this invention is to provide a hoisting and carrying device of the character specified which may be conveniently swung to a position to one side of the tank when not in use so that it will occupy but a small amount of space.

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

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

Figure 1 is a side elevation of the improved hoisting mechanism applied and in its operative or barrel supporting position;

Fig. 2 is a side elevation of the improved hoisting and carrying mechanism in barrel loading or unloading position;

Fig. 3 is a side elevation of the improved hoisting mechanism applied and in its inoperative position at one side of the tank;

Fig. 4 is a fragmentary plan view of the improved hoisting and carrying mechanism;

Fig. 5 is a detailed transverse sectional view illustrating one of a pair of hooks embodied in the invention and means for securing the hook to the frame of the vehicle;

Fig. 6 is a detailed transverse sectional view illustrating the attaching means for the body member whereby the body member may partake of a swinging movement about a horizontal axis.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 generally designates a vehicle having a frame 6 upon which the tank 7 is mounted. The tank 7 may receive gasoline or the like and the invention forming the subject matter of this application is especially adapted for supporting the barrel or the like at one side of the tank 7 in such a manner that the barrel will not be lost during travel.

Particular attention is directed to Fig. 1 which illustrates that the body member of the improved hoisting mechanism is designated by the numeral 8 and consists principally of a pair of spaced parallel channel members hingedly connected to one of the channel sides of the frame as indicated at 9 so that the same may be positioned horizontally as illustrated in Fig. 1 or in an inclined position as illustrated in Fig. 2.

At this point it might be stated that the body member 8 may be horizontally hinged to the frame without the necessity of drilling the frame for the reception of fastening bolts and by reference to Fig. 6 it will be seen that the hinged straps 4 co-operate with substantial L-shaped attaching members 3 defining U-shaped clamps for engaging the opposite sides of the channel side members of the frame. Suitable bolts 2 are extended through the members 3 and 4 and securely connect the same to the frame. The upper portions of the attaching members 3 and 4 are slotted and overlapped and are securely connected by means of fastening bolts 1. Fig. 6 illustrates that the fastening bolts 1 extend through elongated slots in the overlapped portions of the members 3 and 4 and consequently the attaching members may be adjusted for use in connection with channel

members of various widths. This construction does not necessitate drilling holes in the channeled frame and consequently the mechanism may be quickly and conveniently applied to a motor vehicle.

With reference to Figs. 1 and 2 it will be observed that the outer portions of the arms 8 are provided with approximately triangular hinged standards 16, the upper portions of which are bent to provide eyes or hinge barrels 17 to rotatably receive the ends of a hinge bar 19. The sides 20 of a cradle 21 are rigidly secured to the hinge bar 19 and are curved longitudinally to form a seat to snugly receive a barrel or the like to be transported.

The cradle member 21 is horizontally hinged to the hinge standards 16 and the downward swinging movement of the cradle is limited by means of triangular legs 23 riveted or otherwise secured to the under sides of the members 20 and adapted to contact with the cross bar 24 or other stop member carried by the hinge standards 16. When the legs 23 are flatly in engagement with the cross bar 24 as illustrated in full lines in Fig. 1 the hoist is in its barrel supporting position and the barrel is disposed at one side of the tank 7.

However where it is not desired to transport a barrel or the like with the vehicle the cradle may be swung to a substantial upright position as illustrated in Fig. 3 and in this connection it will be observed that the intermediate portion of the hinge bar 19 is provided with a crank 25 to which a coil spring 26 is connected. The spring is also connected at one end to the cross bar 24 and when the cradle is swung to the dotted line position illustrated in Fig. 3 the spring will hold the cradle in this position.

On the other hand when the cradle is in an approximately horizontal position as illustrated in Fig. 1 or in its loading or unloading position as illustrated in Fig. 2, the spring 26 will urge the legs 23 in the direction of the cross bar 24. This is brought about by the fact that the crank 25 swings beyond the center and urges the cradle to one of its extreme positions.

Fig. 4 illustrates that the body member formed by the sides or arms 8 is horizontally hinged at one end as indicated at 9 to the frame and the other end of the body may be mechanically raised and lowered by means of a cable or flexible element 30, the said cable being connected at one end to a bracket 31 and trained about pairs of pulleys 32 and 33. One end portion of the cable 30 is trained about a drum 34 having a manually operated crank 35 by means of which the body member and the barrel mounted thereon may be either raised or lowered.

The pulleys 32 have connection with the outer portion of the body member and the pulleys 33 are fixed to the frame or other part of the vehicle so that by taking up on the cable 30 the body member will be elevated. By letting up on the cable or other flexible element 30 the body member is lowered.

The body member, the cradle and the barrel may be supported in an approximately horizontal position by means of a pair of brackets 40 joined to the frame as indicated in Fig. 5. This figure plainly shows that each bracket is arranged at one side of the frame member opposite an attaching member 150 and the attaching portion of the bracket and the attaching member 150 are provided with overlapping slotted laterally directed terminal portions joined by fastening devices 151 of any suitable type. Fastening bolts 152 are extended through the brackets 40 and the members 151 and adjustably secure the members to the frame.

The lower portions of the brackets 40 are formed with hooks adapted to be engaged by the offset ends 42 of a holding rod 43, the said holding rod being rotatably connected to the outer portion of the body member. When the offset end portions 42 of the holding rod 43 are engaged by the hook of the brackets 40 the strain on the cable 30 is released and the barrel is supported in an elevated position at one side of the tank.

When it is desired to lower the barrel it is merely necessary to raise the body member slightly so that the holding rod 43 may be turned for releasing the offset ends 42 of the same. The barrel is now gradually lowered by the backward turning of crank 35.

With reference to the foregoing description taken in connection with the accompanying drawing it will be seen that a hoisting and carrying device constructed in accordance with this invention may be conveniently applied to a tank truck or wagon of standard constructions without elaborately altering the design or construction of the vehicle.

The improved hoisting and carrying mechanism may be used in connection with either full or half barrels and when half barrels are carried the curved supporting members 50 hinged to the outer end of the cradle are swung to their operative positions to provide curved nesting surfaces for the barrel.

When the device is not in use it occupies but a small amount of space at one side of the tank as illustrated in Fig. 3.

Having thus described my invention, what is claimed is:

1. A hoisting and carrying device comprising a body member, means supporting the body member for movement about a horizontal axis, a cradle horizontally hinged to the outer portion of the body member, and

spring means urging the cradle to inoperative position.

2. A hoisting and carrying device comprising a body member, means supporting the body member for movement about a horizontal axis, a cradle horizontally hinged to the outer portion of the body member, spring means urging the cradle to inoperative position, a cable having connection with the body member, and a drum having connection with the cable and provided with a crank by means of which the body member and the cradle connected thereto may be manually raised and lowered.

3. A hoisting and carrying device comprising a body member, means supporting the body member for movement about a horizontal axis, a cradle horizontally hinged to the outer portion of the body member, spring means urging the cradle to inoperative position, a cable having connection with the body member, a drum having connection with the cable and provided with a crank by means of which the body member and the cradle connected thereto may be manually raised and lowered and a holding rod carried by the body member and having offset portions adapted for engaging a fixed object.

4. A hoisting and carrying device for motor vehicles comprising a body member, means horizontally hinging the body member to a vehicle, hinge standards carried by the outer portion of the body member, a hinge rod connected to said standards and having a crank, and a cradle connected to the hinge rod, and a spring connected to said crank and urging said cradle to one of its extreme positions.

5. A hoisting and carrying device for motor vehicles comprising a body member, means horizontally hinging the body member to a vehicle, hinge standards carried by the outer portion of the body member, a hinge rod connected to said standards and having a crank, a cradle connected to the hinge rod, a spring connected to said crank and urging said cradle to one of its extreme positions and legs connected to said cradle.

6. A hoisting and carrying device for tank vehicles comprising a body member having means whereby the same may be horizontally hinged to a portion of the vehicle and having its outer portion provided with a pair of hinge members, a hinge rod connected to said hinge members, a cradle connected to said hinge rod, a holding bar rotatably connected to said body member and having offset end portions, and brackets having hooks adapted to be engaged by the offset end portions of said holding rod.

7. A hoisting and carrying device for tank vehicles comprising a body member having means whereby the same may be horizontally hinged to a portion of the vehicle and having its outer portion provided with a pair of hinge members, a hinge rod connected to said hinge members, a cradle connected to said hinge rod, a holding bar rotatably connected to said body member and having offset end portions, brackets having hooks adapted to be engaged by the offset end portions of said holding rod and means connected to the body member for manually raising and lowering the same.

8. A hoisting and carrying device for tank vehicles comprising a body member having means whereby the same may be horizontally hinged to a portion of the vehicle and having its outer portion provided with a pair of hinge members, a hinge rod connected to said hinge members, a cradle connected to said hinge rod, a holding bar rotatably connected to said body member and having offset end portions, brackets having hooks adapted to be engaged by the offset end portions of said holding rod, means connected to the body member for manually raising and lowering the same and means connected to said cradle to urge the same to one of its extreme positions.

9. A hoisting and carrying device for tank vehicles comprising a body member having means whereby the same may be horizontally hinged to a portion of the vehicle and having its outer portion provided with a pair of hinge members, a hinge rod connected to said hinge members, a cradle connected to said hinge rod, a holding bar rotatably connected to said body member and having offset end portions, brackets having hooks adapted to be engaged by the offset end portions of said holding rod, means connected to the body member for manually raising and lowering the same, means connected to said cradle to urge the same to one of its extreme positions and an auxiliary cradle connected to said first named cradle.

In testimony whereof I affix my signature.

BASCOM E. COLLINS.