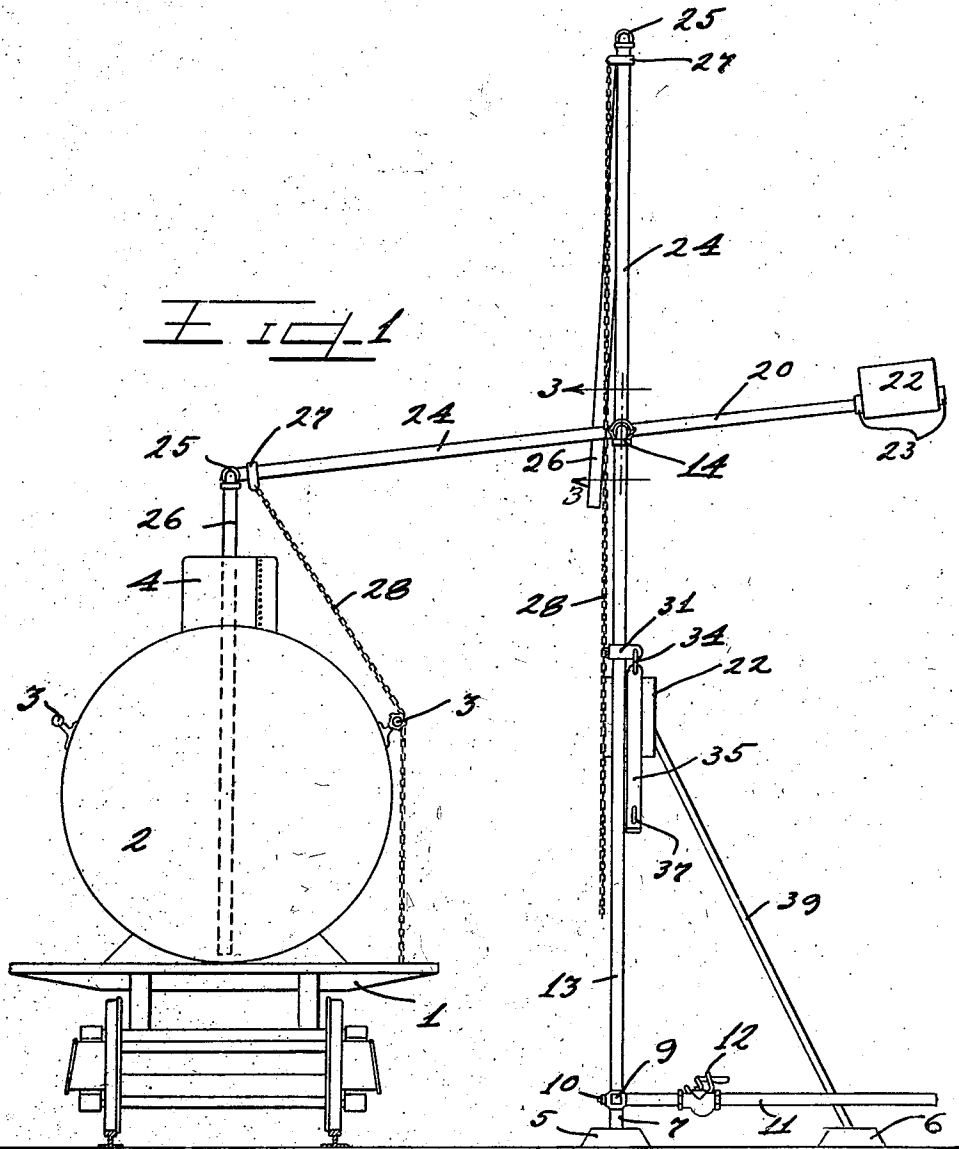


1,429,262.

Patented Sept. 19, 1922
2 SHEETS—SHEET 1.



WITNESSES

H. G. Parks
Charles W. Wells

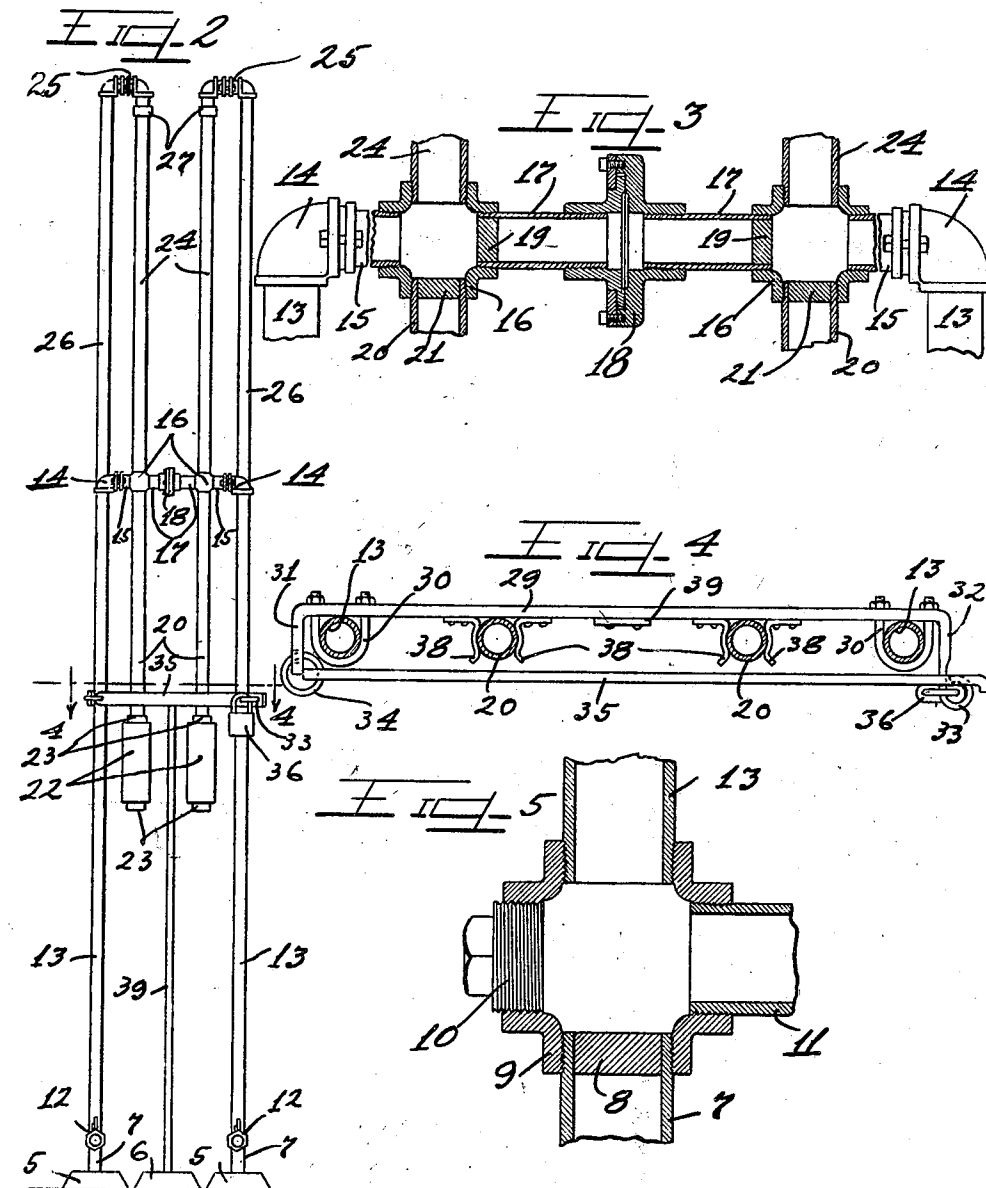
INVENTOR

AUSTIN L. WERTZ

Charles W. Wells ATTORNEY

1,429,262.

Patented Sept. 19, 1922.
2 SHEETS—SHEET 2.



WITNESSES

W. H. Marks
Charles W. Bess

INVENTOR

AUSTIN L. WERTZ

by *Charles W. Bess*
ATTY.

UNITED STATES PATENT OFFICE.

AUSTIN L. WERTZ, OF DUBUQUE, IOWA, ASSIGNOR TO MORRISON BROS., A CORPORATION OF IOWA.

UNLOADING RACK.

Application filed November 7, 1921. Serial No. 513,233.

To all whom it may concern:

Be it known that I, AUSTIN L. WERTZ, a citizen of the United States, and a resident of the city of Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in an Unloading Rack; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improved type of an unloading device adapted to permit oil to be unloaded from a tank car or other container by means of counterbalanced pivotally supported pipes adapted, when unlocked, to be pulled downwardly into an unloading position by means of chains to permit suction pipes permanently connected by swing joints to said counter-balanced pipes to be conveniently inserted into an oil tank which is to be emptied.

It is an object of this invention to provide an improved type of an oil unloading device.

It is also an object of the invention to provide an oil unloading rack with means for locking the swinging pipes in normal position against movement.

Another object of the invention is the construction of an oil unloading rack wherein the unloading pipes are connected by swing joints and operable by means of chains.

It is a further object of this invention to provide an unloading rack adapted to permit unloading of oil from either the top or bottom of a tank.

It is furthermore an object of the invention to provide an unloading rack operable by one man to connect the suction pipe with a tank to be emptied.

It is an important object of this invention to provide an unloading rack of simple and improved construction adapted to be readily connected with a tank car or liquid container to permit unloading of the liquid from the container.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and specification.

The invention (in a preferred form) is illustrated on the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a side elevation of an unloading rack in unlocked position connected with a tank car to be unloaded.

Figure 2 is a rear elevation of the unloading rack in locked position.

Figure 3 is an enlarged fragmentary detailed section taken on line 3—3 of Figure 1 with parts shown in elevation.

Figure 4 is an enlarged detail section taken on line 4—4 of Figure 2.

Figure 5 is an enlarged fragmentary detailed section taken on line 5—5 of Figure 2.

As shown on the drawings:

The reference numeral 1 indicates a flat freight car having mounted thereon a tank 2, provided with longitudinal side rails 3 and with a dome 4.

The unloading rack embodying the principles of this invention is mounted on foundation blocks 5 and 6 and comprises two pipe legs or supporting pipes 7, the lower ends of which are embedded in the foundation blocks 5, while the upper threaded ends of said legs are closed by means of plugs 8. Threaded onto the upper end of each leg 7 is a pipe cross 9 having a plug 10 removably engaged in the front arm thereof. Secured in the rear arm of each cross 9 is a horizontal discharge pipe 11 having a quick closing valve 12 connected therein. The discharge pipes 11 are connected with storage tanks or other suitable containers not shown. Threaded into the upper arms of the crosses 9 are two upright frame pipes 13 having single swing joints 14 attached to the upper ends thereof. Connected to each swing joint swivel pipe 15 is a pipe cross 16. Each cross 16 has a short horizontal pipe 17 secured in one of the arms thereof. The adjacent ends of the short pipes 17 are connected by means of a union 18 constructed to permit the crosses 16 to be rotated. Each of the short pipes 17 has a plug 19 secured in the outer end thereof where it enters its respective cross 16.

Secured in the lower arm of each cross 16 is a pipe 20 closed, where it enters the cross, by means of a plug 21. Attached on the lower or outer end of each pipe 20 is a counterweight or balance block 22 held in place by set collars 23. Secured in the last arm of each cross 16 is an outlet pipe 24 on the outer end of which a single swing joint

25 is secured. A suction pipe 26 is connected to each single swing joint 25. Clamped on the outer end of each pipe 24 is a collar 27 to which one end of a chain 28 is attached.

Rigidly connected to the two upright frame pipes 13 is a cross-bar 29 held in place by U-bolts 30. The ends of the cross-bar 29 are bent at right-angles to afford flanges 31 and 32. The end of the flange 32 is curled to form an eye 33. Engaged through an opening in the flange 31 is a ring 34. A locking bar 35 has one end engaged on the ring 34 while the other end of said locking bar has an opening 37 therein adapted to permit the eye 33 to project therethrough when the bar 35 is in locking position as illustrated in Figure 4. A padlock 36 is provided to engage in the eye 33 to hold the bar 35 locked in place. Secured to the inner surface of the cross-bar 29 are two pairs of spring clips 38 for receiving and holding the pipes 20 in upright position when the unloading device is not in use. Rigidly secured to the middle portion of the cross-bar 29 is the upper end of a brace bar 39, the lower end of which is rigidly secured to the foundation block 6.

The operation is as follows:

As illustrated in Figure 2, the counter-weighted swinging pipes 20-24 are engaged in the spring clips 38 and are locked in place by means of the locking bar 35 and the padlock 36. To use the unloading rack for the purpose of removing oil from the tank car 1-2, the tank car is pulled into position adjacent the unloading rack as shown in Figure 1. The padlock 36 is then unlocked by means of a key and removed from the cross-bar eye 33. The locking bar is then removed from engagement with the eye 33 and is suspended by the ring 34 as illustrated in Figure 1.

One man can easily operate the device by pulling one of the chains 28. The pipe 20 is forced out of engagement with the spring clips 38, thereby permitting the pipe 24 to swing downwardly into the position shown in Figure 1. As the pipe 24 moves downwardly, the suction pipe 26, which is pivotally connected therewith by means of the swing joint 25, swings into position over the tank dome 4 and is lowered into the tank 2. To hold the suction pipe 26 in place during an unloading operation against the action of the counter-balance 22, the chain 28 is secured to the tank rail 3. If desired, both suction pipes 26 may be pulled downwardly into unloading position and engaged in the tank 2 through the tank dome 4.

Oil from the car tank 2 is drawn upwardly by suction through the suction pipes 26 and the outlet pipes 24 and flows through the crosses 16 and the swing joints

14 downwardly through the frame pipes 13 and the crosses 9 into the discharge pipes 11. The oil is permitted to then flow through the quick closing valves 12 and is discharged from the pipes 11 into a reservoir or storage tank connected with said pipes 11.

When the tank car has been emptied, the chains 28 are detached from the tank rails 3. The counterweights 22 drop by gravity, thereby causing the pipes 24 to swing upwardly drawing the suction pipes 26 upwardly out of the tank dome 4 back into normal position. The swing joints 25 permit the suction arms 26 to swing back into normal position while the pipes 20 fall into a vertical position and engage in the spring clips 38 which serve to hold the pipes 24-20 in vertical position. The locking bar is then engaged over the eye 33 and the padlock 36 is placed in position to hold the swinging pipe members locked in place against operation by unauthorized persons.

In case it is desired to unload a tank car from below instead of through the dome 4, the plugs 10 are removed from the crosses 9 and pipes are connected with the crosses 9 and with the lower outlets of the car tank. Oil is then permitted to be drawn through the quick closing valves 12 and through the pipes 11 to be delivered to the storage tanks.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted, otherwise than necessitated by the prior art.

I claim as my invention:

1. A tank car unloading device comprising upright frame pipes, discharge pipes connected therewith, swing joints connected to the upper ends of said frame pipes, crosses connected to said swing joints, a union, pipes connecting said union with said crosses, counter-balanced members connected to said crosses, outlet pipes also connected with said crosses, swing joints attached to the outer ends of said outlet pipes, and suction pipes connected to said swing joints.

2. An unloading rack of the class described, comprising upright frame pipes, means connected to the lower end of said upright pipes to permit underneath unloading, discharge pipes connected to the upright pipes, swing joints connected to the upper ends of said upright pipes, crosses connected to said swing joints, a union between said crosses permitting relative rotation thereof, outlet pipes connected to said crosses, swing joints attached to the outer ends of said outlet pipes, suction pipes connected to said swing joints, counterbalance members con-

connected to the crosses opposite to the outlet pipes and adapted to overbalance the outlet pipes and suction pipes to normally hold the same in upright position, chains attached to said outlet pipes to permit pulling the outlet pipes outwardly and downwardly into operative position, and locking means for locking the movable parts in an inoperative position.

10 3. An unloading rack of the class described comprising rigid upright pipes, rotatable crosses connected therebetween, pipes connected with said crosses, swing joints connected to said pipes, suction pipes attached
15 to said swing joints, counterbalances on the pipes connected to said crosses adapted to retain said pipes in normally vertical position, and chains attached to said counterbalanced pipes to pull the same into an unloading position to permit the suction pipes
20 to project into a tank to be unloaded.

4. An unloading rack comprising rigid upright pipes, means for bracing the same, discharge pipes connected with said upright
25 pipes, quick closing valves in said discharge pipes, swing joints connected to said pipes, and counterbalances on said pipes adapted to retain said pipes in a normally vertical position, pipes attached to said swing joints,
30 chains connected to said counterbalanced pipes to pull the same downwardly to operating position, and means supported on said upright pipes for locking said counterbalanced pipes against movement.

35 5. An oil tank car unloading device com-

prising an upright pipe, a pipe pivotally supported thereon, a swing joint connected to said pipe, a suction pipe connected to said swing joint, counterbalances on said pipes adapted to retain said pipes in normally vertical position, means attached to
40 said counterbalanced pipes to pull the same downwardly into position to permit the suction pipe to be projected into the top of a tank car to unload the same, and means connected to the lower end of said upright pipe
45 to permit the tank car to be unloaded from beneath.

6. A tank car unloading rack comprising an upright pipe, an unloading pipe pivotally supported thereon, a counter-balance on one
50 end of said unloading pipe adapted to retain said pipes in normally vertical position, a swing joint attached to the other end of said unloading pipe, a suction pipe connected to
55 said swing joint, a chain connected to said unloading pipe to permit the same to be pulled downwardly into an unloading position to project the suction pipe into a tank
60 to be unloaded, and means for locking said unloading pipe in normal position against movement when the rack is not in use.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

AUSTIN L. WERTZ.

Witnesses:

JOS. C. WALKER,
MARY B. DRUMMY.