























The second segment sequentially and continuously passes the fuel hose over the first lower drive roller 42a, under the top drive roller 26 connected to a drive arm 38, over the second lower drive roller 42b, and over the frame roller 62.

The first lower drive roller 42a can be a 6 and 5/8 inch. OD rollers mounted on a single shaft.

The top drive roller 26 can be a single of 6 and 5/8.inch OD roller. Each top drive roller is mounted on a separate shaft with a pillow block bearing on each side.

The second lower drive roller 42b can be a 6 and 5/8 inch OD rollers which is the same size from the first lower drive roller. The first and second lower drive rollers are mounted on two different shafts 44a and 44b.

The drive arm 38 operatively aligns the top drive roller 26 between the lower drive rollers 42ab using a hydraulic cylinder capable of pulling down the drive arm and squeezing the fuel hose so it won't slip out, wherein the pressure needing to be entered is at least 1000 pounds,

The arm is controlled by a hydraulic control mounted to a moveable control bank, which can be operable by a robot, by a processor and a human. The hydraulic reservoir is connected to the hydraulic power pack or onboard hydraulics of the vehicle that the ISO container is mounted to. The hydraulic power pack provides the pressure and flow to run the tugger.

A fifth roller 61a mounted to a fifth roller support 60a and sixth roller 61b connected to a sixth roller support 60b are both connected to the frame to ensure the fuel hose is aligned in the tugger for high speed retrieval without entanglement for storage in a moveable container.

The fifth roller and the sixth roller can be 2 and 1/2 inch OD carbon steel that each roll on separate shafts that are parallel to each other. The roller supports are made from carbon steel that is capable of resisting deformation at pressures or load over 1000 pounds per square inch.

## EXAMPLE 2

### Fuel Emergency Bypass Method

In cases where fuel pipelines are damaged to the point they can no longer pump fuel, a lay flat fuel hose can be quickly deployed during the time the fuel pipeline is being repaired, thereby creating a temporary fuel bypass.

To achieve the fuel emergency bypass, a fuel hose made of nitrile rubber is connected to a vessel such as the good section of the preexisting fuel pipeline.

The fuel hose in a moveable container, such as an open trailer connected to a pickup truck. The open trailer supports a tugger usable to retrieve the fuel hose.

Second the fuel hose is deployed from the moveable container, which also supports the tugger. The tugger is mounted on the front of the open trailer.

While driving the pickup towing the moveable container at 12 mph, the fuel hose unfolded and deployed from the open trailer onto the ground to reach the other undamaged portion of the existing fuel pipeline.

Now the fuel hose is connected to a manifold connected to the other side of the fuel pipeline.

The fuel hose is charged with fuel from the good undamaged side of the pipeline.

The fuel is a diesel fuel derivative such as kerosene.

The fuel hose transfers a preset quantity of fuel around the broken fuel pipeline without installing permanent pipe, and only using temporary fuel hoses without a permanent installation or digging in the ground.

Next the fuel hose is retrieved by passing the fuel hose over a lead roller 43 mounted to the frame that mounts to the open trailer. The frame has a first segment of the tigger.

The first segment of the tigger is pitched at an angle from 20 degrees from a second segment mounted to the frame which is generally horizontal to the ground.

The second segment sequentially and continuously passes the fuel hose over the first lower drive roller 42a, under the top drive roller 26 connected to a drive arm 38, over the second lower drive roller 42b, and over the frame roller 62.

The fuel hose can be picked up at the same rate that the pickup drives to pick up the fuel hose that is 2 miles per hour.

The drive arm 38 operatively aligns the top drive roller 26 between the lower drive rollers 42ab and a fifth roller 61a mounted to a fifth roller support 60a connected to the frame and sixth roller 61b connected to a sixth roller support 60b connected to the frame, ensure the fuel hose is aligned in the tigger for high speed retrieval without entanglement for storage in a moveable container.

### EXAMPLE 3

#### Method For Clean Up of Spilled Toxic Liquids

First, a fuel hose is connected to a floating skimmer.

The fuel hose in a moveable container, such as a closed storage container that has an opening for rapid deployment of fuel hose.

The fuel hose is deployed from the moveable container while transporting the moveable container with associated tigger to a floating storage container or tanker trucks waiting on shore from an oil spill or other toxic liquid spill.

Next, the fuel hose is connected to the floating storage tank.

The fuel hose is charged with toxic liquids form the spill using a pump.

A preset quantity of toxic liquid can be removed with equipment that provides a temporary toxic liquid removal facility without a permanent installation

Once the preset quantity of liquid is cleaned up, the fuel hose is retrieved by passing the fuel hose over a lead roller 43 mounted to the frame 10 in the first segment 20 to a second segment 21, wherein the second segment is at an angle 15 degrees from the first segment.

The second segment sequentially and continuously passes the fuel hose over the first lower drive roller 42a, under the top drive roller 26 connected to a drive arm 38, over the second lower drive roller 42b, and over the frame roller 62, and wherein the drive arm 38 operatively aligns the top drive roller 26 between the lower drive rollers 42ab, and wherein a fifth roller 61a mounted to a fifth roller support 60a connected to the frame and sixth roller 61b connected to a sixth roller support 60b connected to the frame ensure the fuel hose is aligned in the tigger for high speed retrieval at 6 mph without entanglement for storage in a moveable container,

### EXAMPLE 4

#### Remote Fuel Deployment By A Moveable Robot

The invention relates to a method for retrieving empty fuel hose after fuel is delivered by fuel hose to a remote location,

The fuel can be at a sea coast terminal location. On the opposite ends, the fuel hose is positioned at a remote location that can be 101 miles away in the center of a desert with no infrastructure, no electricity, and minimal unskilled labor.

This method involves connecting an anti-static lay flat fuel hose such as a TIPSA OROFLEX.TM. 30 oil fuel hose having a plurality of fuel hose sections with connected reusable fuel hose couplings to the sea coast terminal.

The fuel hose has 3 to 4 antistatic wires that run through the hose to provide antistatic couplings on each end of the fuel hose, reducing conductivity from one end of the fuel hose to the other end of the fuel hose. Both ends of the fuel hose have ground rods attached to the fuel hose and to pumps that flow fluid through the fuel hose to ensure a proper electrical ground.

A moving robot with GPS positioning can deploy the fuel hose onto the ground.

The fuel hose forms a portable removable pipeline that extends 50 miles from the floating vessel. Each fuel hose section has a length from 500 feet to 700 feet.

A tugger mounted to the same moving robot with movable storage container is mounted so as to retrieve the flat fuel hose into the moveable storage container continuously, uninterrupted, and without disconnecting segments of fuel hose. The tugger continuously pulls miles of fuel hose into the moveable container without breaking the fuel hose, and without spilling liquid on the ground.

The tugger retrieves the flat fuel hose continuously without disconnecting the reusable couplings used to connect segments of fuel hose. The still connected segments are pulled into the movable storage container quickly and without tearing the fuel hose, and laying the fuel hose for fast deployment. The tugger provides for self-alignment of fuel hose by the tugger into the moveable storage container, forming a small footprint of fuel hose that is not knotted or snarled.

The tugger passes the fuel hose over a lead roller 43 mounted to the frame 10 in the first segment 20 to a second segment 21, wherein the second segment is at an angle of 45 degrees from the first segment.

The second segment sequentially and continuously passes the fuel hose over the first lower drive roller 42a, under the top drive roller 26 connected to a drive arm 38 which can apply 2000 psi onto the fuel hose, then over the second lower drive roller 42b, and over the frame roller 62.

The drive arm 38 operatively aligns the top drive roller 26 between the lower drive rollers 42a and a fifth roller 61a mounted to a fifth roller support 60a connected to the frame and sixth roller 61b connected to a sixth roller support 60b connected to the frame ensure the fuel hose is aligned in the tugger for high speed retrieval such as 4 mph while the without entanglement of the fuel hose for storage in a moveable container.

While these embodiments have been described with emphasis on the embodiments, it should be understood that within the scope of the appended claims, the embodiments might be practiced other than as specifically described herein.

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