Nov. 22, 1938. W. J. CORDES 2,137,832

OIL SAVER

Filed Oct. 1, 1937

FIG. 1.

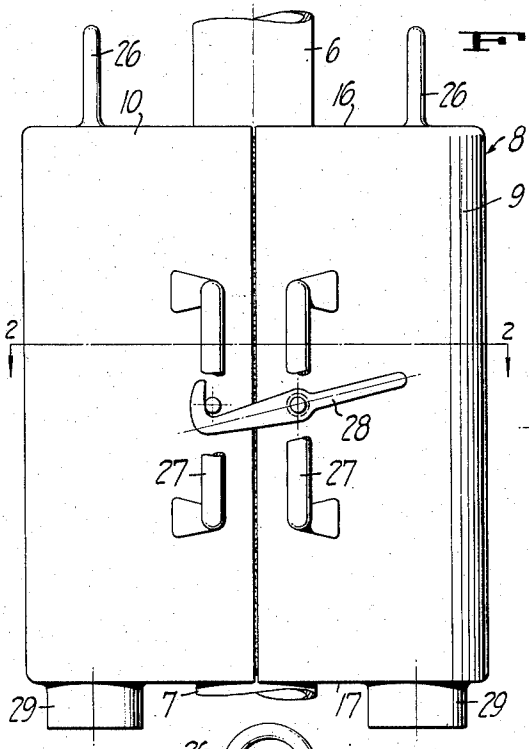


FIG. 2.

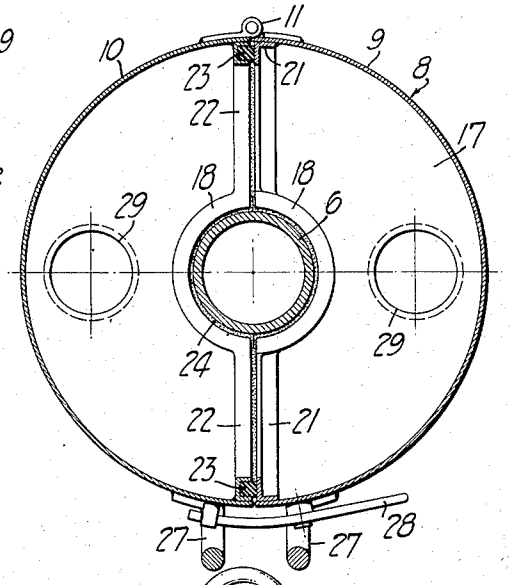
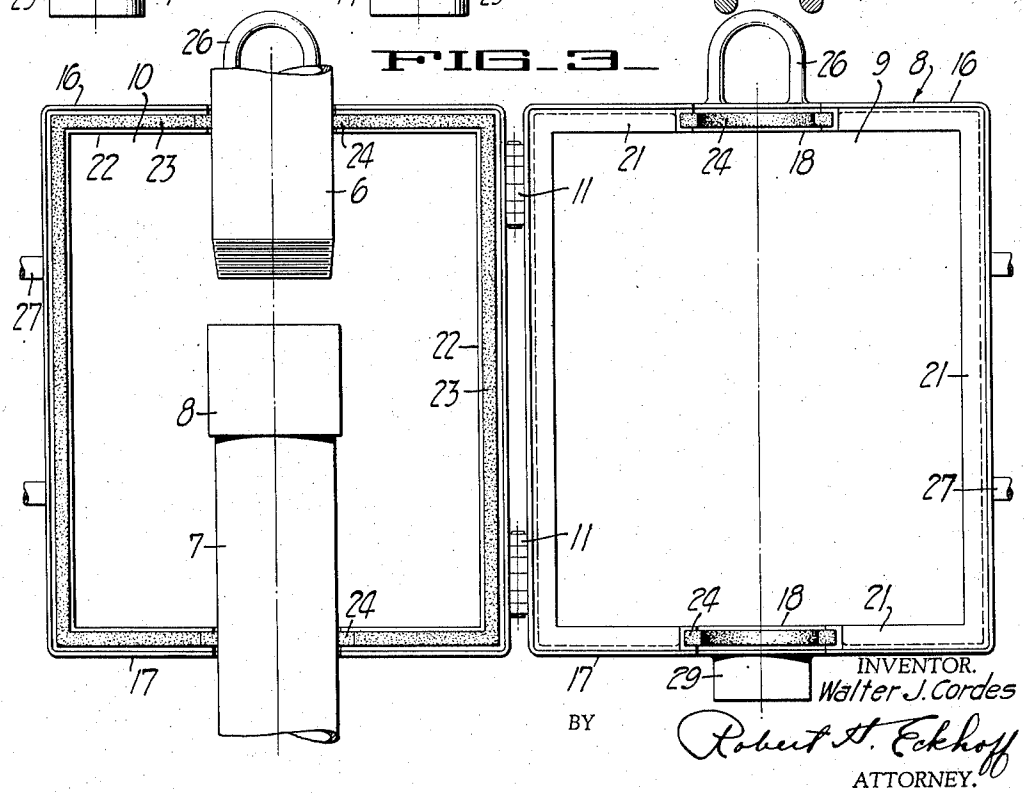


FIG. 3.



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Patented Nov. 22, 1938 2,137,832

UNITED STATES PATENT OFFICE

2,137,832

OIL SAVER

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Application October 1, 1937, Serial No. 166,807

2 Claims. (Cl. 166—16)

This invention relates to a guard for utilization when coupled lengths of pipe are uncoupled and contained fluid is released. The guard of the present invention was developed for use on oil well casing and it will accordingly be discussed as it applies to use in this environment. However, it is to be understood that the guard of the present invention is capable of use in other environments.

It is in general the broad object of the present invention to provide a relatively simple, inexpensive and readily manipulated guard structure.

The invention includes other objects and features of advantage, some of which, together with the foregoing, will appear hereinafter wherein the present preferred form of structure of my invention is disclosed.

In the drawing accompanying and forming a part hereof, Figure 1 is a side elevation illustrating the structure of my invention.

Figure 2 is a section through the device, while Figure 3 is a side view of the structure shown in open position.

Referring more particularly to the drawing, adjacent lengths of pipe 6 and 7 are joined together by coupling 8. In oil well work, the length 7 is held by suitable means while length 6 is turned. When the coupling between the two lengths is broken, that is, when pipe 6 is unscrewed from the coupling or coupling is unscrewed from pipe 7, the fluid carried in length 6 is suddenly released. It is the present practice in oil field work to have one of the crew on the rig hold a piece of sheet metal about the pipe to deflect the fluid released away from the men. This is not satisfactory, and the crew is sprayed with oil while the floor of the rig becomes oil-covered. This presents a serious hazard, because oil may easily enter a man's eye, or a man may slip upon the oil-covered rig floor. Further, it adds to the fire hazard because, when working with volatile crudes, the volatile content of the crude can be easily ignited.

In accordance with this invention, I provide a simple guard means which can be readily positioned about the joint to be uncoupled. As appears in the drawing, this device is a casing 8 made in two halves 9 and 10. These halves are substantially identical, being joined together by hinges 11, positioned along one side of the casing. At opposite ends of the casing, circular ends 16 and 17 are provided, these ends being split into substantially like portions and apertured as at 18 to admit and receive pipe lengths 6 and 7.

The section of the casing is suitably reinforced. I have successfully utilized light channel or angle iron for this, and in section 9 I preferably include a reinforcing frame 21, with a flat side of the frame facing the opposite section, while in section 10 I provide a reinforcing channel with a U section 22 toward the opposite casing section so that when U section 22 is filled with a packing material 23 a seal is maintained between the casing sections and packing 23 engages opposite flat face 21 when the halves 9 and 10 are drawn together. About each aperture 18 suitable packing means 24 is provided to ensure a substantially fluid tight joint about the pipes. However, this joint is such that the pipes 6 and 7 can be rotated relative to each other, the packing means 24 serving as a stuffing gland.

In use, the casing is supported by ears 26 on each casing section 9 and 10, the casing being supported by a line through ears 26 from a portion of the derrick rig so that a man can easily swing the casing into position, place it about the pipe and hold it there while the pipe lengths are being uncoupled, the man placing his hands about opposite handles 27 which are provided in each section. Instead of this a suitable latch 28 can be moved into position, or the casing sections otherwise secured together.

It is to be pointed out that the channel sections in the bottom of each casing half provide wells. When the casing halves are moved apart any oil therein is not spilled. Since the volume of fluid discharged from pipe 6 is considerable, I attach a hose or pipe to drain connections 29 in the bottom of each of the wells so that fluid draining out of pipe 6 can be readily run off to a sump in the drilling rig, preventing the oil from spraying over the crew or onto the floor of the rig.

While I have only shown the guard of my invention as applied to one size pipe, this is not a practical limitation for bushings or plates can be readily fastened removably to each casing half at each end to accommodate smaller pipe. In this case, each attachment carries its own section of packing gland.

I claim:

1. A guard for use on adjacent lengths of pipe connected by a coupling, said guard comprising a casing having a first and a second section, a hinge joining said sections along a side thereof whereby said sections can be moved away from and toward each other to permit release or insertion of connected pipe lengths, said casing having opposite ends therein and having a transverse cross sectional area materially larger than that of said pipe, each end having a portion carried by each

section and apertured to admit a pipe when said casing sections are moved apart, means for removing oil from said casing including a drain from said casing and a well formed in the bottom end of said casing to collect oil for said drain, and packing means carried by said casing sections to provide a substantially fluid tight joint between said sections and about the pipes when said sections are moved toward each other with coupled pipe in said end apertures.

2. A guard for use on adjacent lengths of pipe connected by a coupling, said guard comprising a casing having a first and a second section, a hinge joining said sections along a side thereof whereby said sections can be moved away from and toward each other to permit release or insertion of connected pipe lengths, said casing having opposite ends therein, each end having a portion carried by each section and apertured to admit a pipe when said casing sections are moved apart, a partition wall extending upwardly from each end to provide a well in the bottom of each section, means for draining fluid from each well, and packing means carried by said casing sections to provide a substantially fluid tight joint between said sections and about the pipes when said sections are moved toward each other with coupled pipe in said end apertures.

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