Oct. 1, 1929. F. J. HINDERLITER 1,729,940

COMBINATION CASING RING AND ELEVATOR

Filed Feb. 16, 1928

FIG. 1

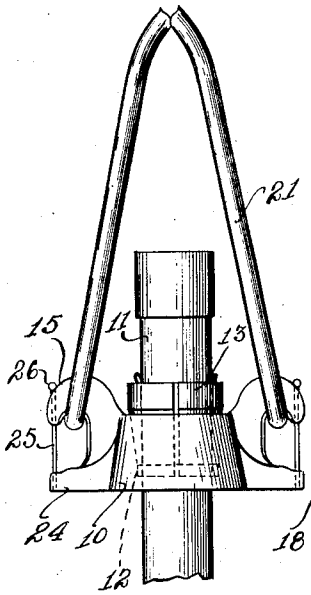


FIG. 2

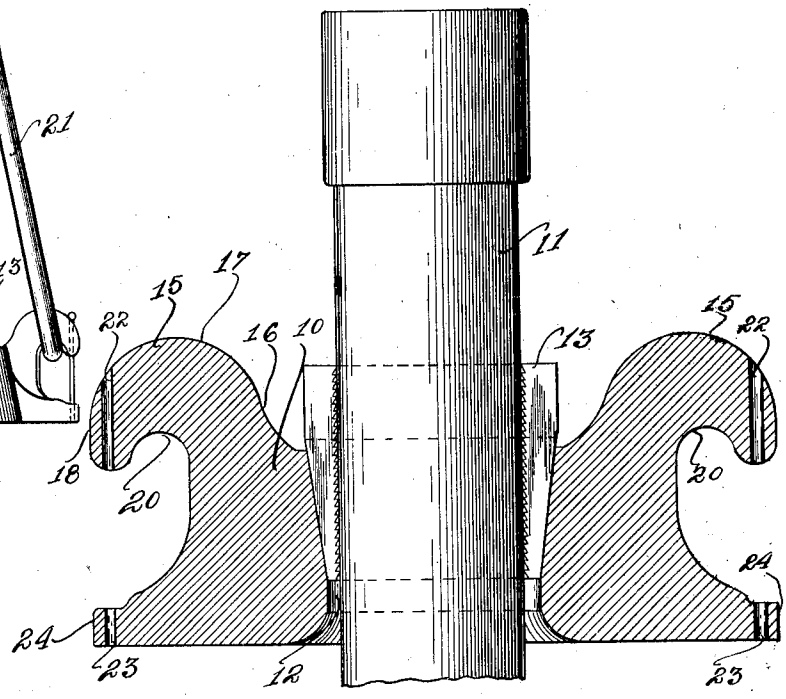


FIG. 4

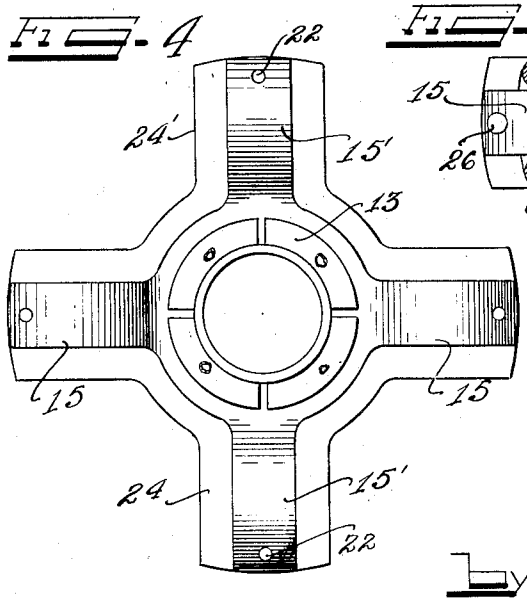
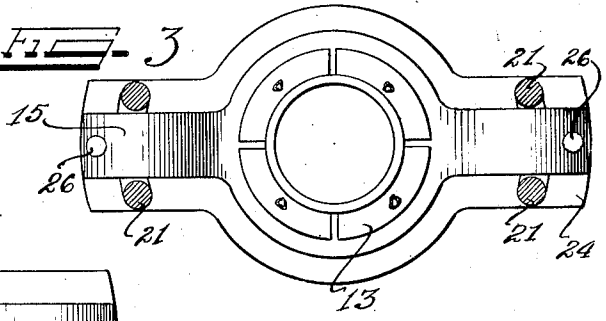


FIG. 3



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UNITED STATES PATENT OFFICE

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COMBINATION CASING RING AND ELEVATOR

Application filed February 16, 1928. Serial No. 254,679.

My present invention pertains in general to oil well apparatus, and more particularly to a combination casing ring and elevator especially adapted for use in connection with the handling of relatively long strings of casing.

With the advent of deeper walls and longer strings of casings, it has become necessary to provide an improved casing ring and elevator capable of handling such strings of casing. In the conventional casing ring and elevator as the ring catches on the top coupling of the string of casing, one of the bails will frequently pull above the other in its associated casing hook, thus resulting in pressure being imposed on only one side of the coupling and thereby permitting the coupling to jump or pull out of the casing ring.

The principal object, therefore, of the present invention is to provide an improved combination casing ring and elevator especially adapted for use in the handling of relatively long strings of casing.

Another object of the present invention is to provide a casing ring and elevator having lateral hooks or lugs of such a construction that the bails connected thereto cannot possibly pull one above the other, thereby eliminating the former danger of the casing pulling off the coupling and dropping to the bottom of the derrick.

A still further object of the present invention is the provision of means connected to the lateral bail lugs of the casing ring adapted to prevent the associated bails from slipping off these lugs.

In accordance with the general features of my invention I provide a combination casing ring and elevator relatively deeper in depth than the ordinary casing and including upwardly extending lateral hook-like lugs cooperable with bails as well as removable pins connected to the lugs for preventing the bails from slipping out from under the lugs.

Other objects and advantages of my invention will more fully appear from the following detailed description taken in connection with the accompanying drawing, which illustrates several embodments thereof and in which:

Figure 1 is an elevation of my novel combination casing ring and elevator showing it as applied to the upper end of a combination casing ring and elevator;

Figure 2 is an enlarged sectional view of the elevator showing the parts thereof in elevation and illustrating the same as applied to the combination casing ring and elevator;

Figure 3 is a plan view of the casing ring and elevator shown in Figure 1 drawn to an enlarged scale, and

Figure 4 is a plan view similar to Figure 3 of a modified form of casing ring and elevator including four lateral lugs.

In the drawings:

Like reference characters designate similar parts throughout the several views.

The reference character 10 designates generally the body of a casing ring and elevator embodying the features of the present invention. It will be noted that this body 10 is considerably thicker than the conventional type of casing ring and elevator, whereby tilting of the same on a casing 11 is prevented. The casing ring 10 includes a central tapered opening 12 of frusto-conical shape in which is disposed a plurality of conventional wedges or slips 13. These wedges 13 are adapted to be inserted in the opening 12 to firmly wedge the elevator to the upper end of the casing 11. Obviously the greater the depth of the opening 12, the greater will be the wedging connection between the casing ring and the casing 11.

Formed integral with the casing ring body 10 and extending upwardly and laterally therefrom are a pair of diametrically opposed lugs or hook-like ears 15. Since these lugs are identical in construction, it is thought that a description of one will suffice for both. Each lug 15 includes an upwardly extending portion 16, a curved lateral portion 17, and a downwardly extending portion 18 disposed outside of and opposite to the upwardly extending portion 16. The two portions 16 and 18 cooperate and define a semi-annular pocket 20 adapted to receive the lower end of a bail 21.

Extending through the downwardly extending portion 18 of each lug 15 is a vertical passageway 22. This passageway 22 is dis-

posed in alignment with a similar passageway 23 and a lateral extension 24 formed integral with the lowermost portion of the casing ring body 10. A removable pin 25 is adapted to extend through the two passageways 22 and 23 for the purpose of preventing the lower end of the bail 21 from sliding out of the pocket 20 defined by the hook-like lug 15. The upper end of the pin is enlarged into a head 26 adapted to abut the top of the portion 18 so as to prevent the pin from falling out of the aligned passageways 22 and 23.

Now from the foregoing it will be evident that by making the casing ring body 10 comparatively thicker than the conventional type of ring, it is possible to minimize the chances of the same being tilted relative to the axis of the casing 11 engaged thereby. This tilting of the casing ring is further prevented by providing the ring with diametrically opposed hook-like lugs including pockets 20 for receiving the links. Since the pockets 20 of the lugs 15 are cut by substantially the same horizontal plane, it necessarily follows that the bails 21 will balance each other and tend to maintain the casing ring at right angles to the axis of the casing 11. This means that the pressure exerted by the slips 13 will be distributed uniformly about the entire wall of the portion of the casing 11 disposed therein. Then, too, it is to be noted that each of the pins 25 is insertable in the associated aligned passageways 22 and 23 for the purpose of preventing the lower end of the associated bail 21 from riding out from under the lateral hook-like lug 15 defining the pocket 20. Moreover, each of these pins is readily removable from the casing ring when it is desired to move the bails out from under the hook-like lugs 15.

In Figure 4 I have illustrated a modified form of casing ring which is identical in construction to that shown in Figures 1, 2, and 3, with the exception that it is provided with two additional hook-like lugs 15′ and two additional cooperating extensions 24′. These lugs 15′ are disposed diametrically opposite each other and at right angles to the other lugs of the casing ring. The construction of these lugs is identical to that of the lugs and extensions 24 already described. It is, therefore, thought that no further description need be made of this construction.

Now, of course, it is to be understood that although I have illustrated and described in detail the preferred forms of my invention, the invention is not to be thus limited, but only in so far as defined by the scope and spirit of the appended claims.

I claim as my invention:

1. In a combination casing ring and elevator, a casing ring body, and lateral hook-like lugs connected to said body for cooperation with bails, each of said lugs extending upwardly and laterally from said body.

2. In a combination casing ring and elevator, a casing ring body, and lateral hook-like lugs connected to said body for cooperation with bails, each of said lugs extending upwardly, laterally and downwardly relative to said body so as to define a pocket for receiving the lower end of a bail.

3. In a combination casing ring and elevator, a casing ring body, a plurality of lugs connected to said body and extending upwardly and laterally therefrom, lateral extensions associated with said body and disposed below said lugs, each of said lugs being adapted when the casing ring is in use to be engaged by a bail, and means associated with each lug and the corresponding lateral extension for preventing the bail from riding out from under the lug.

In testimony whereof I have hereunto subscribed my name at Tulsa, Tulsa County, Okla.

FRANK J. HINDERLITER.