Feb. 28, 1933. F. J. HINDERLITER 1,899,273

CASING SUPPORT AND PACKING HEAD

Filed June 12, 1930

Fig. 1.

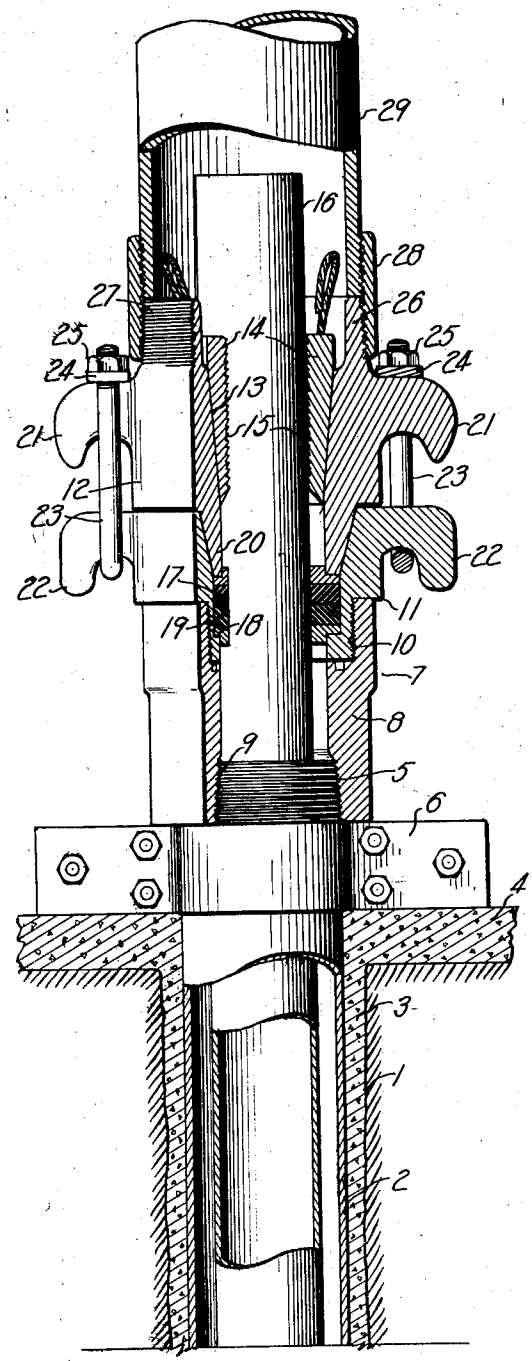


Fig. 2.

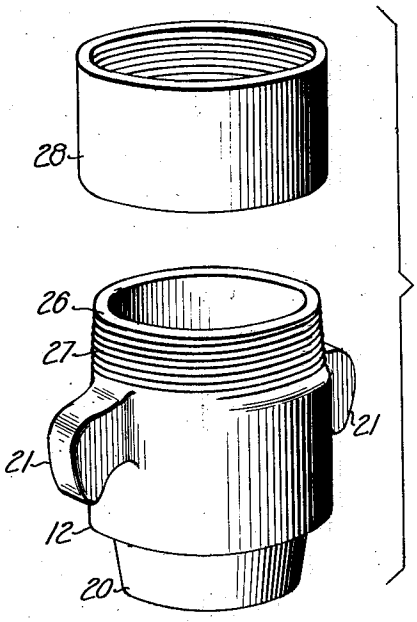
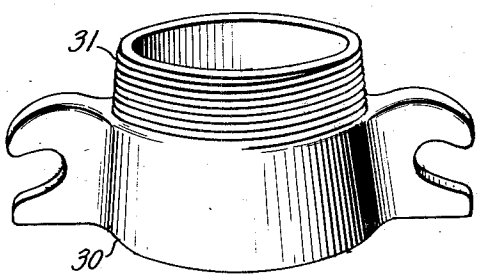


Fig. 3.



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UNITED STATES PATENT OFFICE

FRANK J. HINDERLITER, OF TULSA, OKLAHOMA

CASING SUPPORT AND PACKING HEAD

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My invention relates to tubing and casing supports or the like employed in connection with oil or gas wells, and particularly with wells producing a large volume of gas at high pressure upon initial flow. A well of this character is lined with casing through which the drill pipe or cable is extended and the casing provided with a head fitting having lead line connections, and on which may be mounted a device for supporting the tubing or drill pipe, and means for controlling flow of oil and gas discharged through the casing when the well is drilled into the producing sands.

When the oil or gas is discharged under very high pressure it is difficult to apply controlling apparatus to the casing head or elements mounted on the head, particularly if such application involves interference with discharge of fluid from the well.

It is, therefore, the object of my invention to provide means whereby control apparatus may be applied to the well casing through attachment thereof to the elements ordinarily carried on the casing during the drilling operation.

In accomplishing this object of my invention I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawing, wherein:

Fig. 1 is a sectional view of a casing support and packing head mounted on the upper end of well casing, and including an anchoring ring embodying my invention.

Fig. 2 is a perspective view of the improved support and a coupling in disassembled relation.

Fig. 3 is a perspective view of a casing ring provided with the anchoring means.

Referring more in detail to the drawing:

1 designates the upper portion of a well hole lined with outer casing 2, sealed therein by cement 3, and projecting above a cement floor 4 at the top of the hole.

Clamped around the casing adjacent its upper threaded end 5, and resting on the floor, are plates 6, a casing support and packing head assembly 7 being threaded on the casing.

The packing head 8, of common construction, comprises an annular body having lower internal threads 9 for engaging the end 5 of the casing, and an upper counter-bored and internally threaded end 10 for receiving and seating a top member 11.

Mounted on the top 11 is a casing support 12, provided with an upwardly tapering opening 13 for seating slips 14, having inner series of teeth 15 for supporting an inner string of casing 16, concentric with, and extending upwardly beyond, the outer casing.

An annular recess 17 in the top 11 forms a seating shoulder 18 for packing rings 19, urged into sealing relation with the inner casing by a reduced and tapered lower end 20 of the casing support, extending into a complementary tapered continuation of the annular recess 17.

Outwardly projecting lugs 21 and 22 on the top and support members respectively adapted to receive conventional elevator bails, are anchored together by U-bolts 23 hooked over the lower lugs and extended through plates 24, engaging the upper lugs, nuts 25 threaded on the bolts serving to retain the parts in assembled condition.

The apparatus heretofore described including broadly the tube suspending means and the elevator bail lugs 21 is of well known construction and does not per se constitute my invention. In order to provide means for attaching control apparatus to equipment of this character I have provided a concentric extension 26 on the upper end of the casing support constituting an anchoring ring, preferably externally threaded as indicated at 27 for receiving a coupling 28, whereby a conduit 29, equipped with master gates or other suitable control apparatus (not shown), may be secured to the casing support when a well suddenly blows in, due to extreme underground pressures.

It will be apparent that with an apparatus such as I have described, the entire weight of the outer casing will assist in counteracting pressure from below, thereby providing an additional anchorage not obtained in control apparatus commonly supplied. This is accomplished in part by the novel use of the

U-bolts 23 which serve as intermediate securing means for anchoring the control apparatus to the entire weight of the outer casing.

In Fig. 3 is shown a casing ring 30 provided with a similar upwardly extending and externally threaded portion 31 to which control apparatus may be attached in like manner to that heretofore described.

What I claim and desire to secure by Letters Patent is:

1. A combination casing ring and elevator, comprising a casing ring body and laterally extending lugs on said body undercut for cooperation with hoisting bails when the ring is being used as an elevator and having flat tops to have a U bolt connecting means snapped thereover, in combination with a casing head of a well, and a U bolt connecting means, said body when used as a casing ring being anchored to said head by said connecting means.

2. A pipe elevating apparatus in combination with a casing head including laterally extending lugs, comprising a pipe elevating ring comprising a ring-like body having gripping means for engaging pipe and lateral ears undercut to receive hoisting bails when the ring is in use as an elevator, and U bolt means for tying said ears to said lugs when the ring is being used as a casing ring to prevent excessive fluid pressures from raising said ring away from said head.

3. A pipe elevating apparatus in combination with a casing head including laterally extending lugs, comprising a pipe elevating ring comprising a ring-like body having gripping means for engaging pipe and lateral ears undercut to receive hoisting bails when the ring is in use as an elevator, and U bolt means for tying said ears to said lugs when the ring is being used as a casing ring to prevent excessive fluid pressures from raising said ring away from said head, said ring-like body having its upper portion formed to have anchored thereto fluid control apparatus.

In testimony whereof I affix my signature.

FRANK J. HINDERLITER.