O. T. MILLIGAN.

OIL WELL CAPPING DEVICE.

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1,249,167.

Patented Dec. 4, 1917.

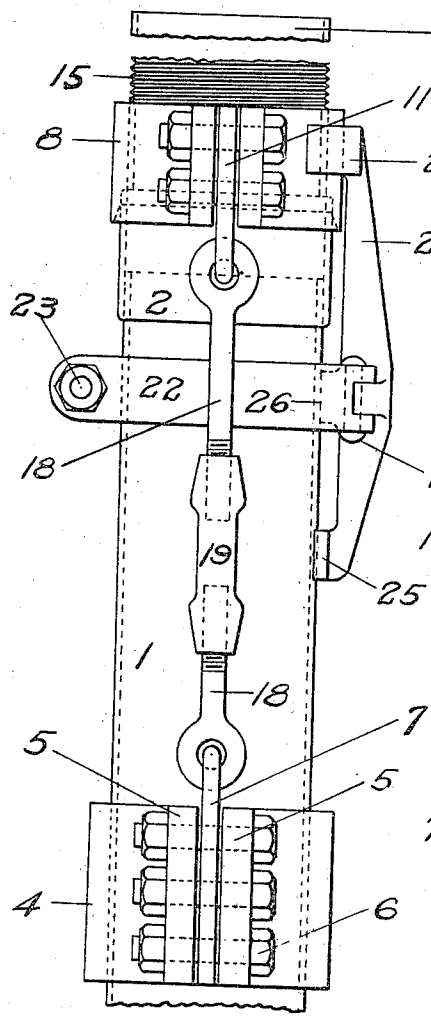


FIG. 1

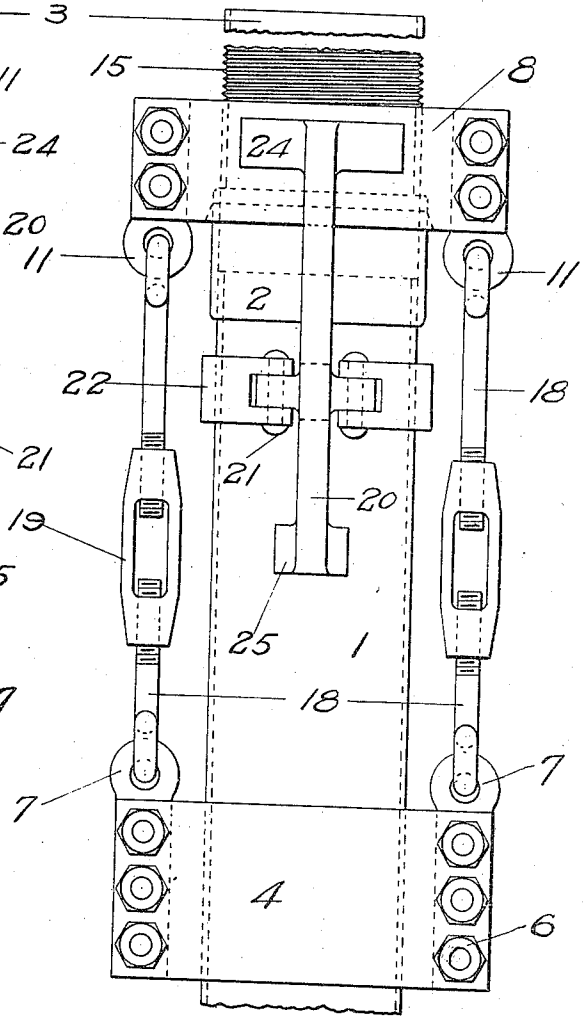


FIG. 2

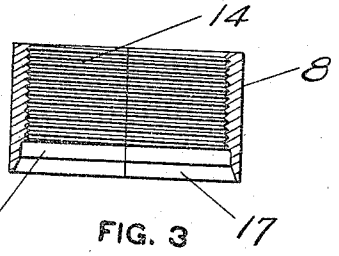


FIG. 3

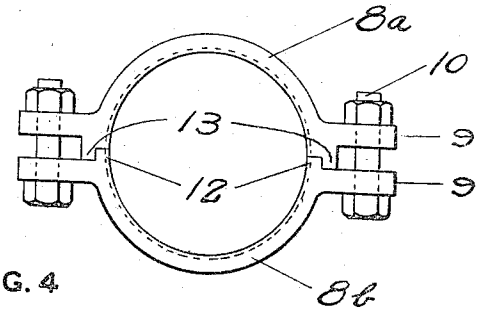


FIG. 4

WITNESSES

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OIL-WELL-CAPPING DEVICE.

1,249,167. Specification of Letters Patent. Patented Dec. 4, 1917.

Application filed August 24, 1915. Serial No. 47,082.

To all whom it may concern:

Be it known that I, OLIVER T. MILLIGAN, a citizen of the United States, residing at Pittsburgh, Pa., in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well-Capping Devices, of which the following is a specification.

My invention relates to means for capping oil wells under a flowing pressure. No means are known to me for accomplishing this at present, other than by manual effort, and this method is a matter of extreme difficulty, which it is the object of my invention to remove.

Oil and gas wells are usually cased with steel pipe in lengths screwed together, this casing being started when the well has been drilled a little way and a length of pipe added from time to time as the well is drilled deeper.

When gas or oil is struck, it is often under great pressure, and rushes up the casing with great force. The difficulties of screwing a nipple or valve to the casing under these circumstances are so great that many days are sometimes required to shut off the flow, during which the oil or gas escaping is usually a total loss.

Referring to the drawings, Figure 1 is an elevation of the upper end of an oil well casing with my capping device attached in operative position to the same. Fig. 2, is a similar elevation in a plane at a right angle to Fig. 1. Fig. 3, is a sectional elevation of the "nipple chuck" in the plane of Fig. 1, and Fig. 4, is a plan view of the same.

The numeral 1 indicates the casing having at its upper end the usual screwed sleeve or coupling 2. The nipple 3, is to be screwed into the sleeve 2.

This nipple 3, may be of any desired length and may have any desired sort of fitting connected to its upper end such as a valve, T, elbow, etc.

A valve would usually be placed at the upper end of the nipple 3, the same being left open until the nipple was screwed tight in sleeve 2, and then closed to hold the pressure.

My improved device comprises four main parts, viz: a clamp, a nipple chuck, a stop, and a pair of adjustable rods.

The clamp is made in halves or split and provided with flanges 5, through which the bolts 6, pass to clamp the two halves firmly to the casing 1. An eye bar 7, is placed between each pair of flanges 5, and also engages the bolts 6. The space between the flanges 6, is wider than the thickness of the eye bar 7, so as to not interfere with the clamping action.

The nipple chuck 8, is also split and formed in two parts 8^a, and 8^b, both parts have flanges 9, connected by bolts 10, there being space allowed between the flanges 10 to admit the eye bars 11. The bolts 10 are "body bound" or close fitting in their holes to prevent relative endwise movement of the parts 8^a, and 8^b. The part 8^b has a pair of tongues 12, and the part 8^a has a pair of tongues 13 which fit closely outside the tongues 12.

On the inside of chuck 8 there is formed a standard pipe thread having a straight bore (no taper) to receive the thread 15, on the nipple 3.

Below the thread 14, a counterbore 16 is formed to fit loosely over the end of sleeve 2, and below the counter bore 16, a tapered bore 17 is formed to guide the nipple chuck over the end of the sleeve 2.

The eye bars 7, and 11 are connected by eye bolts 18, provided with turnbuckles 19.

Bar 20 has a stop 24, at its upper end the same being curved to fit the outside of the nipple chuck 8. Clamps 22 are hinged to bar 20 by rivets 21 and clamped to casing 1 by bolt 23. Pads 25 and 26 on the bar 20, rest against the casing 1 and aline the bar.

My improved device is operated as follows: When gas or oil begins to flow from the well the clamp 4 is in place on the casing 1 with the nipple chuck 8 and eye bolts 18 lying over to the left in a position substantially at a right angle with casing 1.

The stop bar 20 is now set in position and the clamps 22 attached by bolt 23.

The nipple 3 with whatever attached fittings it may carry is now screwed into the nipple chuck 8, which it fits loosely. The thread 15, is long enough to extend through the chuck 8 and into the sleeve 2.

With the end of nipple 3 above the counterbore 16, the nipple 3, nipple chuck 8, and attached parts are swung up to a vertical position pivoting on the eye bars 7, and when the nipple chuck engages the stop 24 the turnbuckles 19 are operated to draw the nipple chuck over the end of the sleeve 2, the same being engaged by the counterbore 16, which centers the nipple chuck and

brings the thread on the nipple into accurate alinement with the thread in the sleeve 2.

It is now only necessary to draw the nipple down to a position where the thread will "take hold" and to screw the nipple home.

When this is done my complete device may be removed to be used again as required.

I claim as my invention:

1. The combination of a clamp arranged to engage a well casing below the coupling, a nipple chuck for holding a nipple to be screwed into the coupling, and means connecting the said clamp and the nipple chuck for drawing the chuck down on the coupling.

2. The combination of a clamp arranged to engage a well casing below the coupling, a nipple chuck for holding a nipple to be screwed into the coupling, an alining device for the nipple chuck and means for drawing the nipple chuck down on the coupling.

3. Apparatus for capping a well casing under pressure comprising a part adapted to be secured to the casing, a nipple chuck to hold a nipple to be connected to the casing, and means connecting the first named part and this nipple chuck for bringing the nipple chuck into such relation with the casing that the nipple is in connectible relation thereto.

4. Apparatus for capping a well casing under pressure comprising a clamp to engage the casing, a nipple chuck to hold a nipple to be connected to the casing, and means connecting the clamp and the nipple chuck to draw the latter down on the end of the casing.

5. Apparatus for capping a well casing under pressure comprising a split clamp adapted to be secured to the casing, a nipple chuck, and a pair of adjustable rods connecting the clamp and the chuck, and an alining device for the nipple chuck.

6. Apparatus for capping a well casing under pressure comprising a part adapted to be secured to the casing, an internally threaded split nipple chuck, and adjustable means connecting said part and said chuck.

7. Apparatus for capping a well casing under pressure comprising a part adapted to be secured to the casing, an internally threaded nipple chuck, said chuck having an enlarged bore to fit loosely over the end of the casing and a tapered bore below the enlarged bore to guide the enlarged bore over the casing end, and adjustable means connecting the chuck and the first named part for drawing the chuck and its contained nipple into engaging position with the casing.

8. Apparatus for capping a well casing under pressure comprising a split clamp to engage the casing, a pair of adjustable rods pivotally connected to said clamp, an internally threaded and split nipple chuck connected to said rods, and an alining device for the nipple chuck removably mounted on the casing.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

OLIVER T. MILLIGAN.

Witnesses:
L. McKITRICK,
ALMA R. PHILLIPS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."