

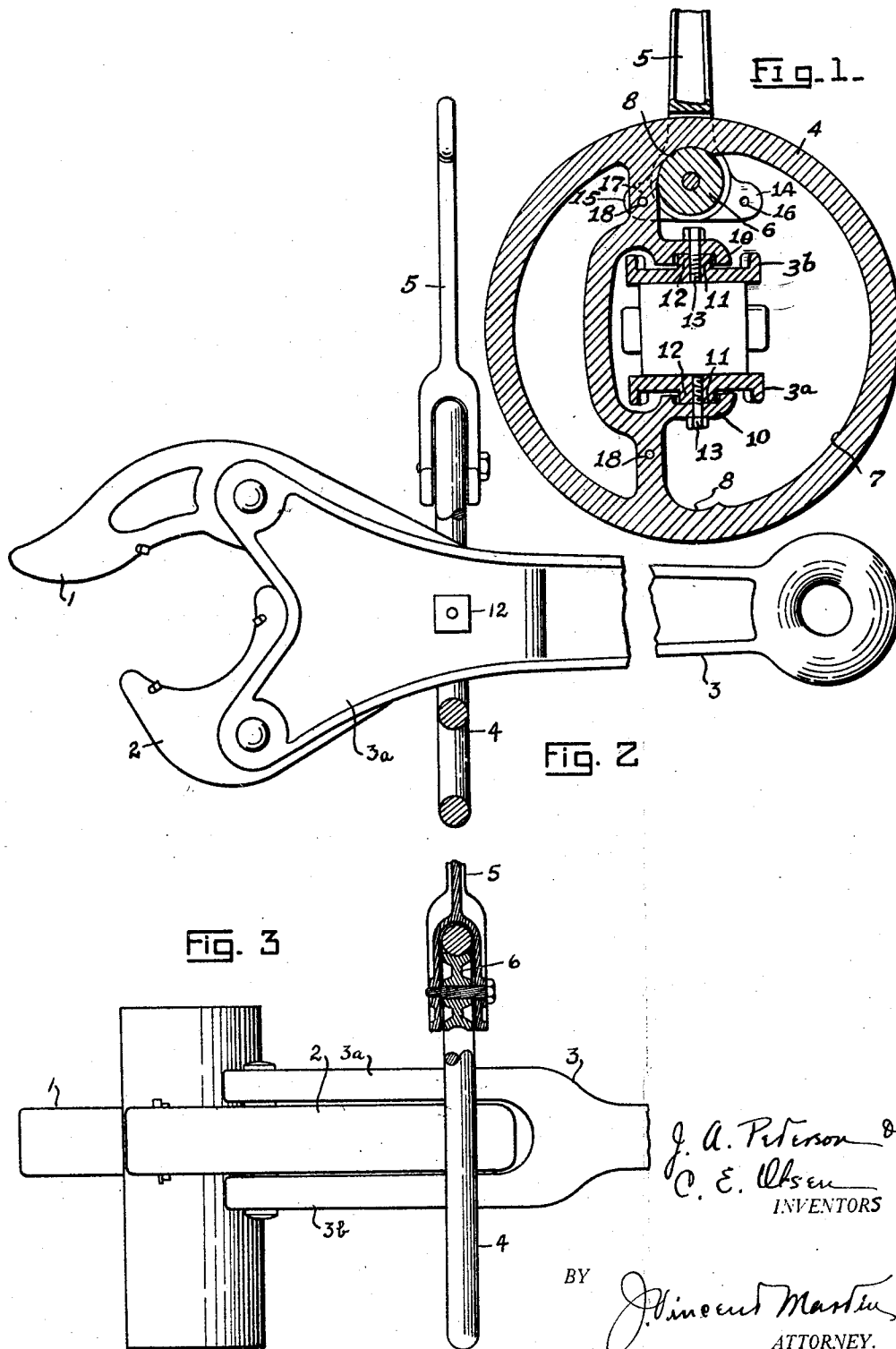
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MEANS FOR SUPPORTING TONGS AND THE LIKE

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This invention relates to supporting means for tongs and the like.

It will be found particularly useful in deep well drilling operations, in which tongs known as break-out and casing tongs and weighing up to 600 pounds are employed to effect the connection and disconnection of sections of drill pipe or well casing.

Its general object is the provision of new and improved supporting means to enable a tong to be easily moved as desired from one position into another.

The preferred embodiment of the invention is illustrated by the accompanying drawings of which Fig. 1 is a vertical sectional view of the supporting means with the tong mounted therein; Fig. 2, a side elevation partly in section of the same; and Fig. 3, a fragmentary bottom plan view of the tong applied to a pipe and held by the supporting means.

The supporting means may, of course, be used with any type of tong or the like. The drawings illustrate its use with a tong having a pair of jaws 1 and 2 movably mounted between the arms 3a and 3b of a forked handle 3, and adapted to automatically open and close for the reception of and to grip the pipe to be rotated.

The supporting means includes an arcuate member 4 preferably in the form of a ring; and a support 5 on which may be mounted a roller 6, to engage the arcuate inner surface 7 of the ring. It will be observed that this surface extends from one side of the tong to the other. At the ends of the arcuate surface 7, on either side of the tong, is a recess 8.

Within the ring is a bar 9 having a pair of spaced arms 10, each of which has an internal substantially square socket 11. Each of the arms 3a and 3b of the handle has a square lug 12 held in one of the sockets 11 by a bolt 13.

The support 5 has a pair of ears 14 and 15 having openings 16 and 17. The bar 9 has a pair of openings 18.

The center of gravity of the tong, and the center of the ring are substantially coincident,

so that the tong is nicely balanced, and may therefore be moved easily.

When the device is used in deep well drilling operations, a cable may be connected to the upper end of the support 5 and passed over a pulley in the top of the derrick and connected to a balancing weight.

If the tong is to be used on a horizontal pipe, the ring 4 may be grasped and rotated so that the tong will be supported as shown by Fig. 2.

If the tong is to be used on a vertical pipe, the ring 4 may be rotated so that the tong will be supported as shown by Figs. 1 and 3, in which position it is yieldably held by the engagement of the roller 6 with the walls of one of the recesses 8. If the vertical pipe must be rotated in the opposite direction, the driller may grasp the ring and swing the tong on its longitudinal axis 180°, when the roller 6 will drop into the other of the recesses 8 to yieldably hold the tong in the latter position. If it is desirable to lock the tong in the former position, a suitable pin (not shown) may be passed through holes 17 and 18; if in the latter, through holes 16 and 18.

By grasping the ring, the driller may quickly and easily force the tong into engagement with or remove it from the pipe.

The invention is not limited to the preferred embodiment shown. Various changes may be made within the scope of the following claims:

1. A tong having an arcuate member, and a tong support having a roller engaging said member.

2. A tong, an arcuate member through which said tong extends and to which said tong is connected, and a tong support having a roller engaging said member.

3. A tong, a member to which said tong is connected, said member having an arcuate surface extending from one side of said tong to the other, and a recess on either side of said tong, and a tong support having a roller to roll on said surface and into said recesses.

4. A tong, a ring through which said tong extends, and a bar in said ring having a pair of arms on which said tong is mounted.

5. The combination of a tong, a support

remote from said tong, a member mounted on said tong and having an inner arcuate surface, and an element carried by said support and bearing movably upon said surface, said member and element serving to connect said tong and support so that said tong when supported is rotatable about its longitudinal axis.

6. A tong, a member mounted thereon at substantially a right angle to its longitudinal axis, said member having an inner arcuate surface, and a tong support remote from said tong and having an element bearing movably upon said surface so that said tong is rotatable about its longitudinal axis on said support.

7. A tong, a ring mounted on said tong, said tong extending through said ring, and a support having an element bearing movably upon the inner surface of said ring, said tong being movable by said ring and rotatable about its longitudinal axis on said support.

8. A tong, a ring mounted on said tong, said tong extending through said ring, and a support having an element bearing movably upon the inner surface of said ring, and means to releasably hold said element on certain parts of said surface, said tong being movable by said ring, rotatable about its longitudinal axis on said support, and releasably held in predetermined positions by said means.

In testimony whereof, we hereunto affix our signatures.

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