

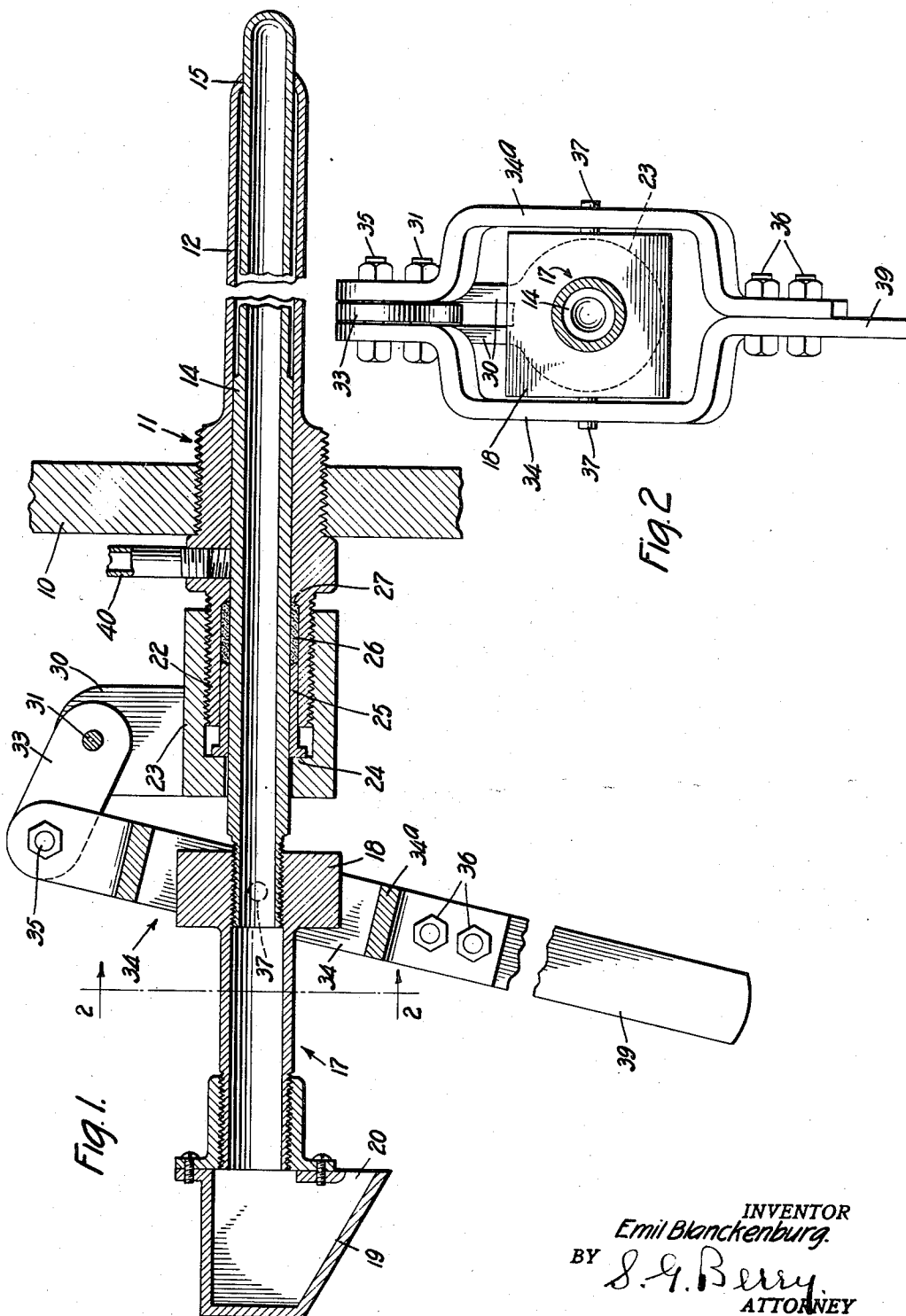
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MOUNTING FOR PYROMETER WELLS

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MOUNTING FOR PYROMETER WELLS

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5 Claims. (Cl. 73—52)

The present invention relates to improvements in mountings for pyrometer wells. More particularly it relates to a combination of a mounting for this purpose and means for cleaning the tip of the well (or such other part thereof as may be desired) of matter deposited thereon and which would have a tendency to impair the accuracy of the pyrometer reading. While of broad application, my invention finds particular use in connection with apparatus for cracking oil, wherein oil vapor at high temperature has a tendency to deposit carbon on surfaces with which it comes into contact.

A preferred form of my invention comprises a mounting in which the pyrometer well is slidably contained, such mounting being secured to the wall of a vessel, the temperature of the interior of which it is desired to measure, and providing a sheath for the well which terminates adjacent the end of the well and which at such point of termination makes a close fit therewith so that when the end of the well for example is moved within the sheath the edges of the latter in contact with the well will scrape it free of carbon or other matter deposited thereon. Means are also provided in the form of a gland for resisting any pressure within the vessel and means, preferably manual, are also provided for affording the relative movement of the well and sheath.

My invention will be best understood by reference to the following detailed description taken with the annexed drawing in which,

Figure 1 is a view in longitudinal section of a preferred embodiment; and

Figure 2 is a view in section along line 2—2 of Figure 1.

Referring to the drawing by characters of reference, 10 denotes the wall of the vessel, the temperature of the interior of which it is desired to measure. In preferably screw threaded relation thereto is a supporting member 11 comprising a mounting which is provided with a sheath portion 12 adapted to contain the pyrometer tube or well 14. Sheath 12 is open-ended as shown, such end 15 making a close fit with the pyrometer well 14, although the sheath except for the end 15 is preferably slightly larger than the pyrometer well in order to reduce friction between these elements as much as possible. In the embodiment shown, well 14 is threaded to a member 17 forming an extension of said well, member 17 being provided with a hub or block 18 for purposes which will be apparent hereinafter and at its other end with a head 19 having an opening 20 for the pyrometer wires, not shown, and dis-

posed so as to prevent rain from entering the well.

Supporting member 11 also has a gland receiving portion 22 which is exteriorly threaded to receive a packing nut 23 provided with an internal shoulder 24 by means of which gland 25 is caused to compress packing 26 contained between it and a shoulder 27 of the member 11. Nut 23 has attached thereto or integral therewith a pair of fins 30, 30 which receive a pivot 31 for a link 33, link 33 in turn being pivotally attached to lever 34 by means of pivot 35. Lever 34 is bifurcated by the inclusion of a member 34a which is attached thereto by means of bolts 36, 36; such bifurcation accommodates the head 17 of the pyrometer sheath and is pivotally attached thereto by means of trunnions 37, 37. As shown best in Figure 2, both ends of the bifurcation enclose the link 33. Lever 34 terminates in a handle 39. For the purpose of lubricating the bearing of the pyrometer well an oil duct 40 is also provided.

The junction of the pyrometer element, or so-called hot end, will ordinarily occur adjacent the tip of the pyrometer well. In use the operator moves the handle 39 back and forth two or three times shortly before taking a reading whereby the end of the sheath 12 is caused to scrape the tip 15 of the well free of deposited carbon or other matter. In this manner error in the reading, which would be caused by such deposited matter, is eliminated. By suitable tightening of the packing nut 23 the pyrometer well may be held in any desired position against the pressure prevailing in the chamber.

I wish it understood that various changes will occur to those skilled in the art without departing from the spirit of my invention and the scope of the appended claims.

I claim:

1. In a device of the character described, in combination with a vessel providing an enclosed space the temperature of which is to be measured, a pyrometer well, a mounting for said well extending through a wall of said vessel, a member having a scraping relation with the outer surface of said well and means outside said wall comprising a link and lever connection for effecting a relative movement of said well and said member over a limited distance against superior pressure within said enclosed space, said connection serving to limit outward movement of the movable member due to said superior pressure.

2. In a device of the character described, in combination with a vessel providing an enclosed space, the temperature of which is to be measured, a pyrometer well, an elongated member

passing through a wall of said vessel and bored to receive said pyrometer well, said member extending adjacent the end of said well and having a scraping relation therewith, a packing gland and a packing ring between said well and said member and a clamping member secured to said elongated member and holding said gland against said ring, said clamping member also bearing a device for moving said well in and out of said member to clean said well of matter deposited thereon.

3. In combination with a chamber adapted to contain material at non-atmospheric pressures, a temperature responsive device extending into said chamber, a scraper within said chamber, and manually operable means for positively moving the device and scraper relatively to each other a limited distance against the pressure of fluid within said chamber to remove deposits from the surface of said device.

4. In combination with a chamber adapted to contain material at non-atmospheric pressures, a temperature responsive device extending into

said chamber, a fixed scraper also extending into said chamber and having a cutting edge, means for positively moving the device a limited distance back and forth past the cutting edge of said scraper and against the pressure of fluid within said chamber to remove deposits from the surface of said device.

5. In combination with a chamber adapted to contain material whose temperature it is desired to measure, a temperature responsive device extending into said chamber, means for attaching the device to a wall of the chamber permitting it to extend through said wall, a member at least partly enclosing the portion of said device extending into said chamber and adapted to act as a scraper for a temperature sensitive part of said portion, means connecting said attaching means and said device for positively moving the latter back and forth a limited distance to cause said member to exert a scraping action upon said temperature sensitive portion and remove the deposited matter therefrom.

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