April 3, 1945. F. S. RUDROW ET AL 2,373,054

SUCKER ROD WRENCH

Filed Feb. 16, 1943

Fig. 1.

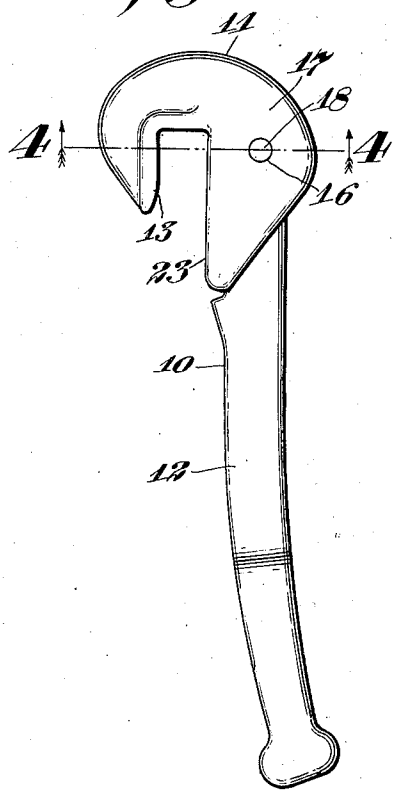


Fig. 2.

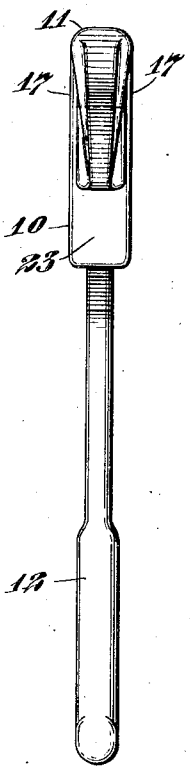


Fig. 3.

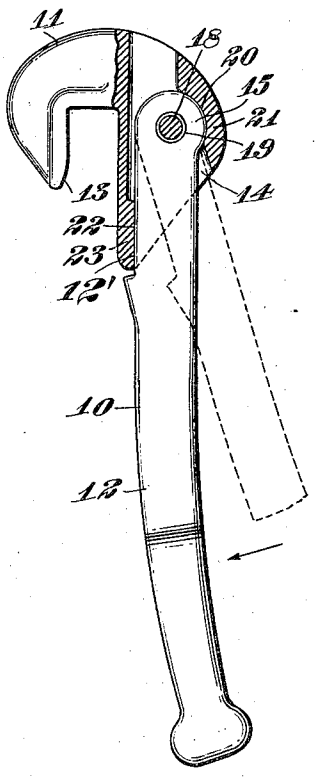
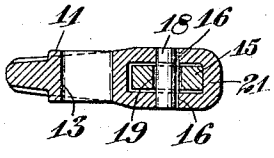


Fig. 4.



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SUCKER ROD WRENCH

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Application February 16, 1943, Serial No. 476,096

3 Claims. (Cl. 81—53)

Our invention relates to wrenches and more particularly to snap type sucker rod wrenches.

One of the objects of our invention is to provide a sucker rod wrench which is particularly effective in setting up and breaking the joints of sucker rods used in oil wells and the like.

Another object of our invention is to provide a sucker rod wrench having a head and an oscillatory handle, with means to secure said handle in engagement with said head.

Still another object of our invention is to provide a sucker rod wrench with a head having a seat and a handle which is capable of swinging in an arc in the seat and delivering a blow to the head of said wrench.

A still further object of our invention is to provide a sucker rod wrench having an oscillatory handle secured in the head by means of a pin and having means within the head to be engaged by the handle to protect said pin from shearing stresses.

Other objects and advantages of our invention will be understood from the specifications and drawing, in which:

Figure 1 is a side elevation of a wrench constructed in accordance with our invention;

Fig. 2 is a front view of the wrench shown in Fig. 1;

Fig. 3 is a side view partially in elevation and partially in section; and

Fig. 4 is a section taken along line 4—4 of Fig. 1.

Referring to the drawing more in detail, 10 designates a wrench having a head 11 and an elongated handle 12 having an arcuate end portion 15. Head 11 is provided with a gripping jaw 13 to embrace the square of a sucker rod or other object to be turned. The front wall 23 of head 11 is provided with an anvil 22 which receives the impact of hammer portion 12' of handle 12 when said handle is oscillated from the position shown in dotted lines to the position shown in full lines in Fig. 3 of the drawing. Head 11 is further provided with a recess or socket 14 into which the arcuate end portion 15 of the handle 12 extends, and a seat 20 in the back wall 21 to provide a bearing for the arcuate end portion 15. The side walls 17 of the head 11 are provided with openings 16 to receive the ends of the pin 18 which passes through a hole 19 provided in the arcuate end portion 15 of handle 12 and constitutes a retaining member to prevent the separation of the handle 12 from the wrench head 11, when the handle is in its idle or inoperative condition as shown in dotted lines in Fig. 3. In the structure shown in Figs. 3 and 4 of the drawing, the hole 19 in the arcuate end portion 15 of handle 12 is larger than the pin 18, a loose fit for the pin being provided. When the handle is in its inoperative condition the end portion thereof is slightly movable and may contact the pin but as no stresses are being put on the handle the pin is in no danger of receiving shearing stresses. As shown in the drawing, the contour of seat 20 is concentric with the pin 18 and substantially conforms to the contour of the end portion 15 of the handle 12. When the hammer portion 12' is in facial engagement with the anvil 22, the end portion is in facial engagement with the seat portion, the axes of the pin, seat and end portions will substantially coincide which will center the pin 18 in hole 19, and the pin will thus be rendered inoperative and in spaced relation with the sides of the hole 19 in the end portion 15. Upon striking the handle a blow in the direction of the arrow as shown in Fig. 3, force will be transmitted to the head 11 by the hammer portion 12' engaging the anvil 22 and the end portion 15 engaging the seat 20. The anvil 22 and the seat 20 will receive all of the transmitted force and therefore during this operation no force will be transmitted to the pin 18, due to the fact that seat 20 is so formed that movement of the handle is opposed in all directions relative to said pin.

While we have shown an enlarged hole 19 in the handle 12 to receive pin 18 the same result could be obtained by rigidly mounting the pin 18 in the handle 12 and providing enlarged holes in the side walls 17, or by loosely mounting the pin both in the handle 12 and in the side walls 17.

While we have shown our invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and we desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A wrench comprising a head member and an oscillatory handle member, said head member having a jaw, an anvil, and an integral seat portion, said handle member comprising an end portion disposed within said head member, the wall of the head member directly opposite the seat portion being spaced therefrom a distance great-

er than the width of said end of said handle member, said end portion having an offset arcuate portion opposed to said seat portion and adapted for engagement therewith, and a hammer portion to engage said anvil, a retaining pin disposed transversely through said head member and said end portion of said handle member loosely mounted with respect to one of said members and adapted to be disposed in spaced relationship therewith when said handle is in contact with the anvil and said integral seat portion, said integral seat portion having portions adapted to embrace said offset portion of the end of said handle adjacent the points where said offset portion joins said handle to oppose longitudinal movement of said handle with respect to said head and said pin during engagement of said handle with said anvil and said seat portion.

2. In a wrench of the character described, a head comprising wrench jaw faces, an anvil face, a socket having a wall face substantially an extension of said anvil face and an integral inner circular wall face opposed thereto having its center approximately central of said socket, said faces and the axis of said center extending transverse of the head, an elongated handle having an end within said socket, the wall face directly opposite the circular wall face being spaced therefrom a distance greater than the width of said end of the handle, and said end having an offset arcuate portion in opposed relationship with said circular face and adapted for facial engagement therewith within said socket and a hammer face adapted for facial engagement with said anvil face, said circular face embracing a substantial portion of said offset arcuate portion of said handle during engagement of said handle with said anvil face and said circular face to oppose longitudinal movement of said handle with respect to said head during such engagement, and a retaining pin secured substantially on the axis of said center in a non-positioning relationship with said head and said handle, and said socket permitting limited oscillatory movement of said handle about the axis of said center away from said anvil face.

3. A wrench comprising a head member and an oscillatory handle member, said head member having a jaw, an anvil face, and a socket having a wall face substantially an extension of said anvil face and a seat integral with said head member and having an arcuate face opposed to said wall face, said handle member having a hammer face to engage said anvil face and an end disposed within said socket, the wall face directly opposite said seat being spaced therefrom a distance greater than the width of said end of the handle, said end having an arcuate offset having a radius substantially the same as the radius of said arcuate face to engage said arcuate face, a retaining pin extending through said head member and said handle member to loosely retain said handle member within said head member and said offset portion of the end of the handle being disposed within said seat and engaging the arcuate face thereof to oppose longitudinal movement of said handle with respect to the head and to position said members in predetermined relation to each other and said retaining pin to maintain one of said members out of engagement with the pin when said hammer face is contacted with said anvil face.

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