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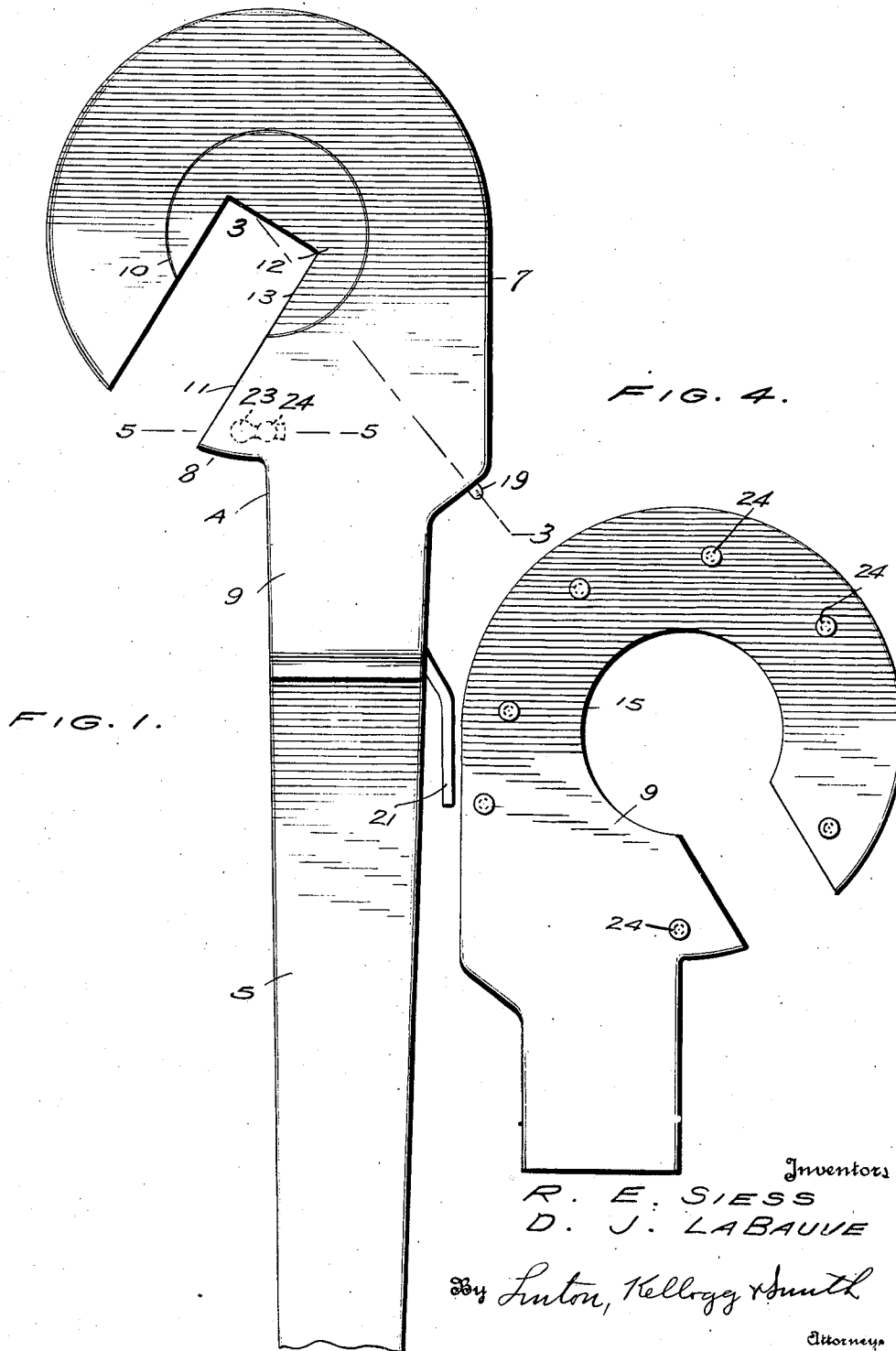
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1,815,804

RATCHET WRENCH

Filed June 14, 1930

2 Sheets-Sheet 1



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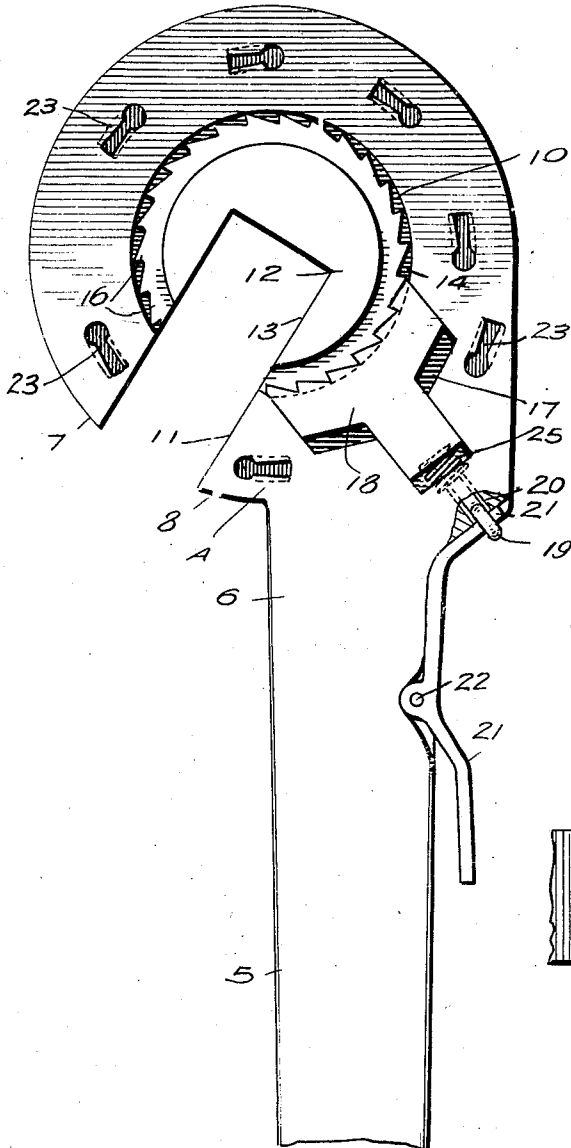


FIG. 2.

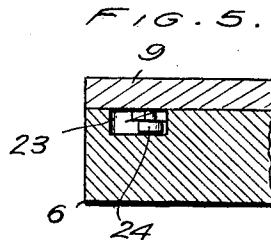
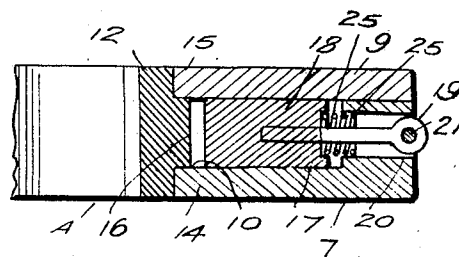


FIG. 3.



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RATCHET WRENCH

Application filed June 14, 1930. Serial No. 461,169.

The invention relates to wrenches of the ratchet type, and more especially, to a well sucker rod wrench.

The primary object of the invention is the provision of a wrench of this character, wherein the jaw head is constructed in a novel manner, so that the grip for the sucker rod or other part to be turned, will be closed about the latter, thereby making it impossible for the wrench to lose its grip upon the rod or other part during the working of said wrench, or when the latter is engaged therewith.

Another object of the invention is the provision of a wrench of this character, wherein the jaw head is of such construction that the movable parts are replaceable, thus permitting rendering said wrench adaptable for different sizes of work, the parts of said wrench being assembled in a novel manner.

A further object of the invention is the provision of a wrench of this character, wherein the entrance for the work to the gripping jaw is located in close proximity to the handle or shank of said wrench, so as to give maximum strength thereto, and also, to permit convenient introduction of the latter to the sucker rod or other part to be operated, the wrench in its entirety being of novel form.

A still further object of the invention is the provision of a wrench of this character, wherein the trigger for actuating the ratchet is located in a convenient position for easy access and manual control.

A still further object of the invention is the provision of a wrench of this character, which is extremely simple in construction, thoroughly reliable and efficient in its purpose, strong, durable, readily and easily operated, compact, and inexpensive to manufacture.

With these and many other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which discloses the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a plan view of the wrench constructed in accordance with the invention;

Figure 2 is a fragmentary plan view with the jaw head cover plate removed;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a plan view of the jaw head cover plate looking toward its inner face; and

Figure 5 is a fragmentary sectional view on the line 5—5 of Figure 1.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, the wrench which is designated generally at A, comprises a handle 5, which, in this instance, is straight and forms a continuation of a shank 6, the latter and said handle being outwardly tapered, although these may be otherwise formed if found desirable.

The shank 6 is integrally formed with a jaw head 7, which, for its major contour, is of circular formation, the shank 6 being tangentially merged therein eccentrically with respect to the center of said head. One side face of the head is offset as at 8, with relation to the shank 6, while removably fitted on the opposite side face of the head is a cover plate 9, the manner of removably attaching the latter being hereinafter described.

Centrally of the head 7 is a circular recess or socket 10, while opening into the latter is an entrance mouth 11, the same being disposed angularly with respect to the shank 6, and in close proximity thereto or to the point of merger of the head and shank. This head 7 forms the stationary jaw of the wrench, while rotatably fitted within the recess or socket 10 is the movable jaw 12 of said wrench and this latter jaw constitutes the grip for a sucker rod or other part to be operated. The jaw 12, is provided with a work receiving notch 13 opening through its periphery, which is adapted to register or aline with the mouth opening 11 when the work is to be received therein.

The offset face 8 of the head 7 uniformly extends over a portion of the center opening 10, to provide at one side thereof, a retaining flange 14, while the cover plate 9,

which, when applied to the head, presents an offset thereto opposite the offset face 8, likewise is uniformly extended over the center opening 10, to provide a retaining flange 15 counter to said flange 14, as will be apparent. The movable jaw 12, is provided circumferentially with ratchet teeth 16, these being projected, and ride on the flanges 14 and 15, which latter constitute a race-way therebetween within the jaw head 7, for the movable jaw. This movable jaw 12 is readily extractable from the recess or socket 10 for accommodating the same, so that different types of movable jaws and also different sizes of the same can be substituted accordingly to the work to be operated upon by the wrench.

Communicating with the recess or socket 10 close to the shank 6, at the point of merger of the same with the head 7, is a ratchet dog space or chamber 17, in which is arranged a relatively wide ratchet dog 18, coacting with the ratchet teeth 16 on the movable jaw to lock it against movement in one direction and to permit free turning movement in the reverse direction. This dog 18 is formed with a stem 19 playing through a suitable opening 20 therefor, and with this stem is operably connected a finger controlled actuating trigger 21, pivotally mounted at 22, on the shank 6 in convenient position and ready manipulation by the user of the wrench. When the trigger 21 is operated, it will cause the release of the dog 18 from the ratchet teeth 16, thus permitting free movement of the jaw 12 clock-wise or counter-clockwise. The dog 18 is sustained in latching position by means of a tension spring 25 active thereon.

The jaw head cover plate 9, is detachably secured to the latter preferably through the medium of anchoring slots 23, and studs 24, respectively, although said plate may be otherwise removably fastened upon the head 7, of the wrench if found necessary. On removal of the plate 9, access may be had to the interior of the head 7 and the movable parts extracted therefrom should the occasion require.

It will be noted that when the sucker rod or other part to be turned by the wrench is introduced through the mouth 11 into the movable jaw 12 and the handle of said wrench is shifted to through the mouth 11 and notch 13 out of register or alinement, the said movable jaw 12 will be caused to grip the rod or part entirely about the latter and such wrench cannot become accidentally detached from the rod or part.

The movable jaw 12 can be reversed in the head 7, so that the wrench is workable in two directions, thus making it adaptable for a right or left hand wrench. It is, of course, understood that when reversing the movable jaw 12 the dog 18 is likewise reversed in the head 7 of the wrench.

Manifestly, the construction shown is ca-

pable of considerable modification, and such modification as is within the scope of our claims, we consider within the spirit of our invention.

We claim:

1. An open end ratchet wrench of the character described comprising a handle, a shank formed therewith, a hook-shaped jaw head formed with said shank and offset therefrom, said head having a mouth angularly disposed with relation to said handle and in close proximity thereto, said jaw head having a circular opening therein, a rotatable jaw mounted within said circular opening and having a work receiving notch normally registering with the mouth of said jaw head, ratchet teeth formed upon the periphery of said rotatable jaw, said head having a recess formed therein opening into the circular opening thereof, a relatively wide ratchet dog slidably mounted within the recess and held against lateral movement therein by means of the walls of the recess, teeth formed with said ratchet dog and adapted to normally mesh with the ratchet teeth of said rotatable jaw, and manually operable means mounted on said shank and connected to said ratchet dog substantially as and for the purpose specified.

2. An open end ratchet wrench for well sucker rods comprising a handle a shank formed therewith, a jaw head formed integral with the shank and offset therefrom, said jaw head having a circular concentrically arranged recess therein opening to one side thereof, a flange formed with the opposite side of the jaw head to which the recess opens onto and partially covering said recess, a rotatable jaw comprising a circular body, centrally arranged ratchet teeth formed upon the periphery of said body portion of the movable jaw and providing opposed annular bearing surfaces, said jaw head having an entrance mouth extending therethrough in close proximity to said shank and angularly disposed with respect thereto, a work receiving notch formed in said rotatable jaw and adapted at times to register with the entrance mouth of said jaw head, said jaw head having an angularly disposed recess therein opening into the circular recess thereof, a relatively wide ratchet dog slidably disposed in the angularly arranged recess of said jaw head, ratchet teeth formed with said ratchet dog for meshing with the ratchet teeth of said movable jaw, spring means for normally holding the teeth of said ratchet wheel into mesh with the teeth of said rotatable jaw, manually operable means comprising a trigger exteriorly arranged adjacent said handle for releasing said ratchet teeth of the dog from meshing with the ratchet teeth of said rotatable jaw, a cover plate detachably secured to said jaw head and shank having an open-

ing therein, one of said bearing surfaces of
said rotatable jaw being mounted within
said flange of the jaw head and the other of
said bearing surfaces being mounted within
5 the opening of said cover plate, substantially
as and for the purpose specified.

In witness whereof we have hereunto set
our hands.

ROBERT E. SIESS.
DUCLISE J. LA BAUVE.

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