

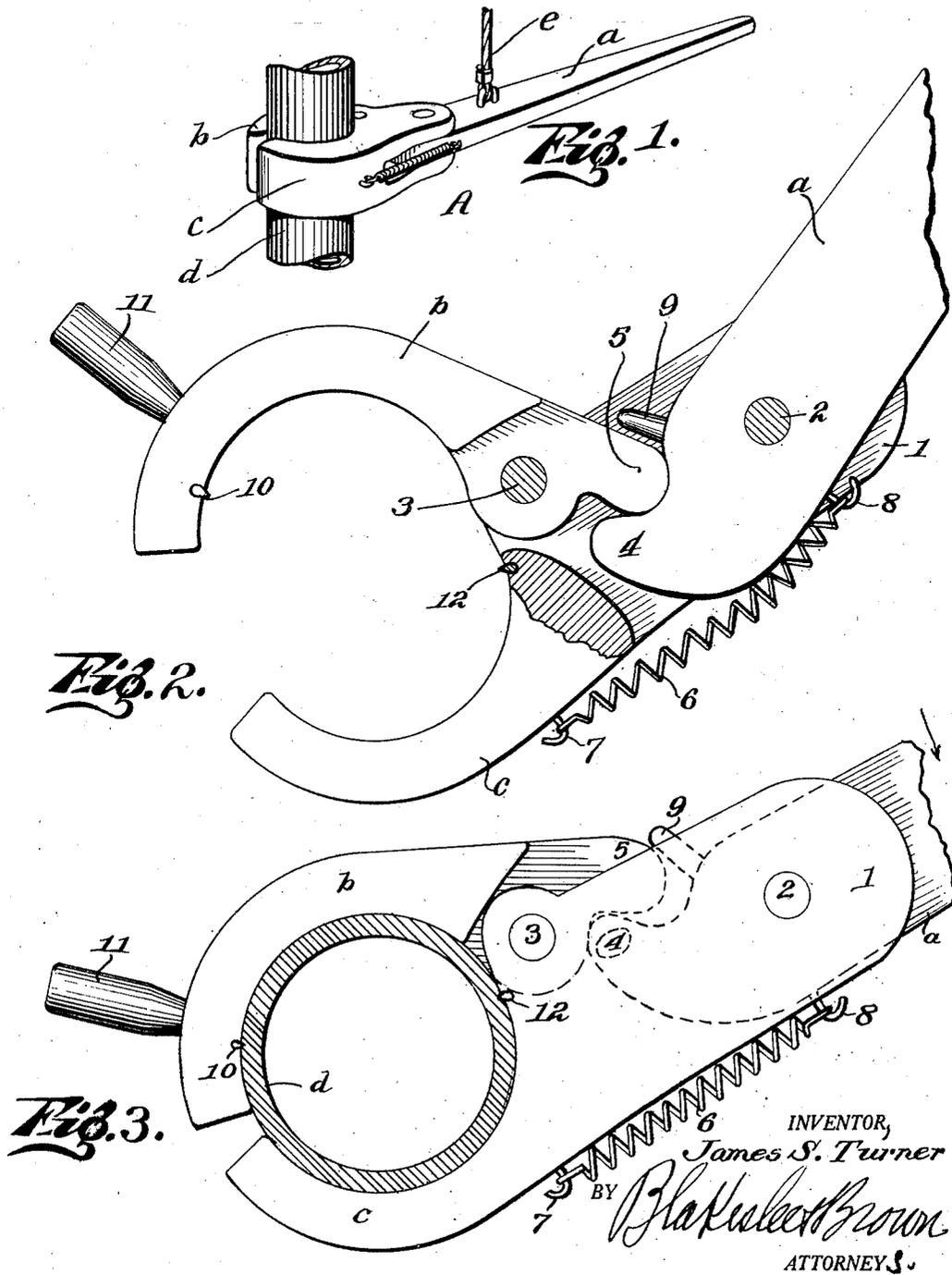
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OIL WELL TONGS OR WRENCH

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# UNITED STATES PATENT OFFICE.

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## OIL-WELL TONGS OR WRENCH.

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This invention relates to oil-well apparatus and particularly to tongs or wrenches. The invention has for an object the provision of a tongs or wrench which is adapted to securely grip work when the wrench is moved in one direction and to release work when moved in an opposite direction.

With the above and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and interrelation of parts, members, and features, all as shown in one embodiment of the accompanying drawing, described in the following statement, and finally pointed out in claims.

In the drawing:

Fig. 1 is a fragmentary perspective view of a tongs or wrench shown in operative relation with casing or tubing;

Fig. 2 is a fragmentary view, certain parts being sectioned, of a tongs or wrench with the jaw parts thereof open for reception of work; and

Fig. 3 is a view similar to Fig. 2, but showing the jaws closed about the work.

Corresponding parts in all the figures are designated by the same reference characters.

Referring to the drawing, A designates the improved tongs or wrench, of which *a* is the operating member or handle, and *b* and *c* jaw members for engaging the work *d*. The jaw member *c* is provided with a furcated shank 1 and the operating member *a* is received between the furcations of the shank and held in hinged relation thereto by means of a suitable pin 2 passing through the furcations and the operating member *a*. The jaw member *b* is held in hinged relation to the shank 1 and within the furcations by means of a suitable pin 3 passing through said furcations and the jaw. The operating member *a* is provided with a bearing nose 4 adapted to cooperate with a nose 5 carried by the jaw *b*. Yielding means 6 is associated with the operating member *a* and with the jaw *c*, said yielding means constituting a contractile spring held at one end by a suitable pin 7 to the jaw *c* and at the other end by a suitable pin 8 to the operating member *a*. The operating bearing pin or member *a* likewise carries a member 9 which may contact with a portion of the nose 5 during certain movements of the operating member. The jaw *b* may be pro-

vided with an inset 10 for enhancing grip of said jaw upon the work *d*, if desired; and in addition, the jaw member *b* may be provided with a projecting handle 11 to aid in opening the jaws.

In Fig. 1 the usual support *e* is provided for holding the tongs.

The operation of the device is as follows: The tongs or wrench may be caused to engage the work *d* by grasping the handle 11 associated with the jaw *b* and swinging the jaws apart. This position is illustrated in Fig. 2, and it will be noted that the operating member *a* will be moved when the jaw *b* is relatively moved with relation to the jaw *c*, the movement thereof being resisted by the contractile or yielding means 6. Furthermore, a movement of the operating member *a* will cause the part 9 to engage an edge of the nose 5 of the jaw *b* and tend to swing said jaw about its hinged center 3. When the jaws *b* and *c* engage the work the inset 10 of the jaw *b* will tend to prevent slippage during movement of the wrench, and likewise an inset 12 carried by the jaw *c* may further enhance the grip of the jaws upon the work.

In Fig. 3 the jaws engage the work *d* and a movement of the operating member *a* in the direction of the arrow will cause the noses 4 and 5 to interlock and prevent spreading of the jaw members; in fact, the more resistance encountered by the jaws in the moving of the work or tending to unscrew or screw the tubing or casing, will cause the nose portions of the operating member *a* and the jaw *b* to tightly engage and therefore cause the jaw members *b* and *c* to engage the work. When movement has been secured in the work in one direction and it is desired to further turn the work in the same direction, movement of the operating member in an opposite direction will free the jaws from the work so that the insets 10 and 12 will not bite into the work, but will slide over the periphery thereof. This releasing of the jaws from the work is to a measure opposed by the spring 6. The jaws may be relatively moved by the part 9 of said operating member engaging the nose 5, as has been pointed out, and cause a swinging of the jaws from each other to free the work. It will be noted in particular that the general arrangement causes a stress-resisting relation to exist as between the operating member *a* and

the two jaws *b* and *c* when the jaws are in work-engaging relation, the parts interlocking.

5 A device of this character is extremely useful, in that it provides for a continuously operating tongs or wrench freeing the jaws from the work when the tongs is moved in one direction and locking the jaws to the work when the tongs is moved in an opposite direction.

10 It is obvious that various changes, modifications, and variations may be made in practicing the invention, in departure from the particular showing, but that said changes may be made within a fair interpretation of the invention as set forth and defined by the  
15 appended claims.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

1. In oil-well tongs, the combination of an  
20 operating member adapted to be suspended from a support, a relatively fixed jaw pivoted to the said member, a contractile spring normally holding the relatively fixed jaw and said operating member in alinement, spaced bearing  
25 projections carried by the operating member, an actuator jaw pivoted to the relatively fixed jaw and having a nose arranged between

said spaced bearing projections, and a hand-grasping part carried by the actuator jaw whereby manual manipulation of the movable  
30 jaw to open the the same will cause said operating member to move relative to the fixed jaw.

2. A wrench of the class described, including a relatively fixed jaw member, a movable  
35 actuator jaw pivoted on the latter adjacent the inner end of the work gripping portion thereof, a nose projection formed on the movable jaw in a direction opposite the work-engaging  
40 portion thereof, a handle by which the wrench is adapted to be supported pivoted to the shank portion of the fixed jaw and provided with a bearing nose portion engaging at the  
45 inner side of the projecting nose of the movable jaw, a bearing pin carried by the handle and spaced from the nose thereon to receive the nose of the movable jaw, and a contractile spring connecting the handle and fixed jaw and tending to normally bring them into  
50 alinement.

In testimony whereof, I have signed my name to this specification.

JAMES SCOTT TURNER.