

T. MILLS.
PIPE AND CASING TONGS.
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934,332.

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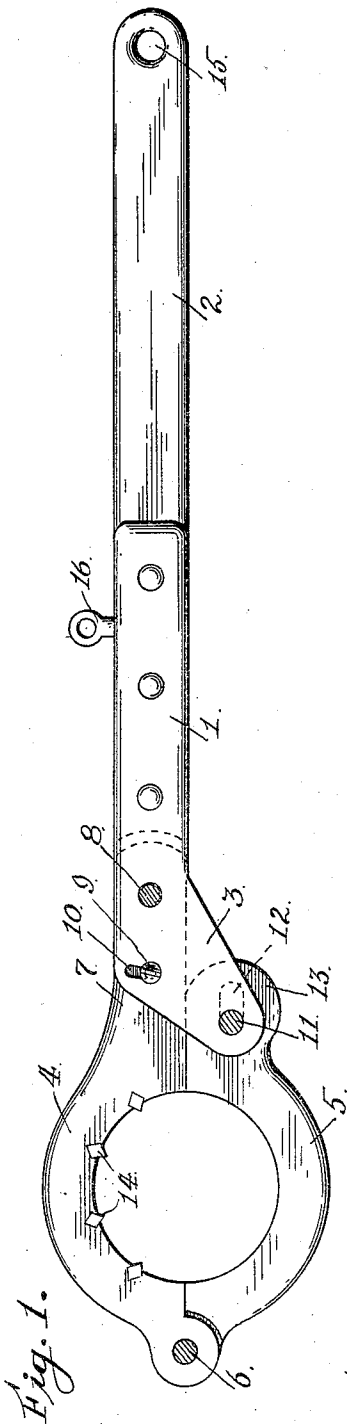


Fig. 1.

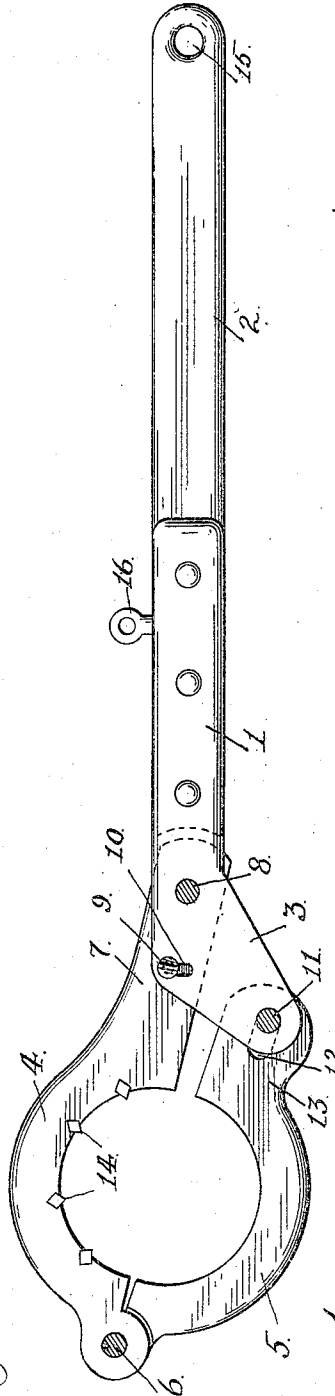


Fig. 2.

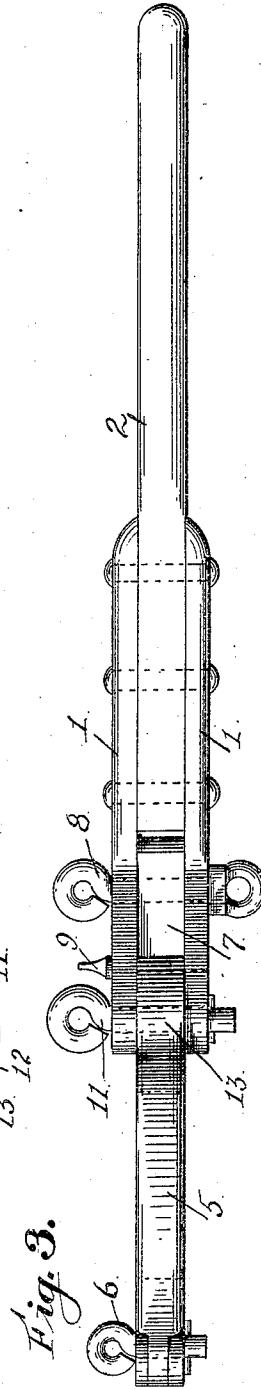


Fig. 3.

Witnesses:

Arthur L. Lee.
S. Constone.

Inventor.

Theodore Mills
by *Wm. F. Booth*
his Attorney

UNITED STATES PATENT OFFICE.

THEODORE MILLS, OF COALINGA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO SAMUEL ALLEN GUIBERSON, JR., OF COALINGA, CALIFORNIA.

PIPE AND CASING TONGS.

934,332.

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To all whom it may concern:

Be it known that I, THEODORE MILLS, a citizen of the United States, residing at Coalinga, in the county of Fresno and State of California, have invented certain new and useful Improvements in Pipe and Casing Tongs, of which the following is a specification.

My invention relates to that class of pipe or casing tongs, in which the gripping jaws are alternately forced to and relieved from their work, by the swinging of the handle. These tongs are particularly adapted for screwing into place successive sections of well-casing, though they may be used for the turning of any pipes.

The object of my invention is to provide a simple, economical and effective pipe or casing tongs, which are easily applied and have no tendency to crush or mutilate the pipe; and to this end, my invention consists in the novel tongs which I shall now fully describe, by reference to the accompanying drawings in which:

Figure 1 is a plan view of my tongs, showing the jaws closed. Fig. 2 is a similar view showing the jaws open. Fig. 3 is an edge view of the tongs.

1 is a stock comprising two plates, between which is bolted the handle 2. The stock, at its forward end, is formed with a head 3, laterally inclined.

4 is the main jaw, and 5 is the complementary jaw. These are hinged together at their forward ends, by the pin 6. The two jaws involve between them the circumference of the pipe or casing to be gripped. The shank 7 of the main jaw enters the forward end of the stock 1, and its extremity is pivoted therein by a bolt 8. Forward of this pivotal center, the shank 7 has fitted through it a guide pin 9, which plays in an elongated slot 10 in the head of the stock. Fitted through the extremity of the stock-head is a pin 11, upon which an elongated slot 12 in the shank 13 of the complementary jaw 5 plays.

The operation of the tongs is as follows: To fit the implement to the pipe or casing, the pin 11 is withdrawn from the stock, either wholly, or sufficiently to free the shank 13 of the jaw 5; and said jaw may then be swung wide open. When the tool is on the pipe, the jaw 5 is swung closed again, and the pin 11 is reinserted. Now, assuming

this to be the position shown in Fig. 2, before the tongs are clamped upon the pipe, it will be seen that if the handle 2 be moved toward the observer, the effect will be to swing the jaw 5 toward the jaw 4, by the pressure of the stock-head acting through the pin 11, which pin presses upon and travels in the slot 12 of the jaw shank. This movement of the stock-head is permitted, as far as the main jaw is concerned, by the main pivot bolt 8 and the elongated slot 10 which plays upon the pin 9 in the shank of said jaw. These interrelative movements continue until, as seen in Fig. 1, they come to an end when the two pins 11 and 9 are at the ends of their respective slots, which represent the complete movements, assuming, as illustrated in Fig. 1, the absence of the pipe or casing to be clamped, and the perfect closing of the jaws. When the pipe or casing, however, is present, it will be understood that these movements stop short of the full limit, with the effect of causing the jaws, under the pressure on the handle, to grip the pipe or casing with an increasing bite, until said pipe or casing rotatively yields to the motion of the tongs. Upon the return or back movement of the handle, the jaws, under the reverse pressure, positively separate as shown in Fig. 2, relieve the pipe, and turn thereon freely for a repetition of the first operation.

In the face of the main jaw, are best inserted biting teeth 14. The hole 15 in the end of the handle represents the point of connection of the crank-connected cable which, when the tongs are suspended and used for well-casing, operates the implement in one direction. The eye-bolt 16 in the side of the handle, represents the point of connection for the weight suspending cable which moves the device in the other direction.

By removing the bolt 8 and the two pins 9 and 11, the jaws may be separated from the handle and stock, for convenient transportation, or the substitution of jaws of different sizes to work on different pipes. By circumscribing the pipe with two jaws only, there is less tendency to crush or throw the pipe out of shape, and by having jaws which approximate the diameter of the casing or pipe, their pressure can be regulated with such accuracy, that it will be sufficient to turn the pipe; any excess, tending to crush or mutilate it, being prevented by the coming

together of the meeting extremities of the jaws as shown in Fig. 1.

The whole tool is simple in construction and readily applied to the pipe, fitting it with accuracy and convenience and with no undue crushing tendency.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

10 A pipe or casing tongs comprising a handled-stock having a laterally inclined head, provided with an elongated slot in its outer angle; a main jaw, having a shank with a pin playing in the slot of the head, said
15 shank being pivoted to the head at a point

beyond said slot; a complementary jaw, hinged at its outer extremity to the outer extremity of the main jaw, said complementary jaw having a shank provided with an elongated slot; and a pin in the extremity of the inclined stock-head, upon which the slot of the shank of the complementary jaw plays.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE MILLS.

Witnesses:

E. L. R. TRIMBLE,

J. W. FLUETSCH.