

No. 681,388.

Patented Aug. 27, 1901.

H. B. CLARK.

DETACHABLE ALLIGATOR JAW FOR WRENCHES.

(Application filed June 13, 1900.)

(No Model.)

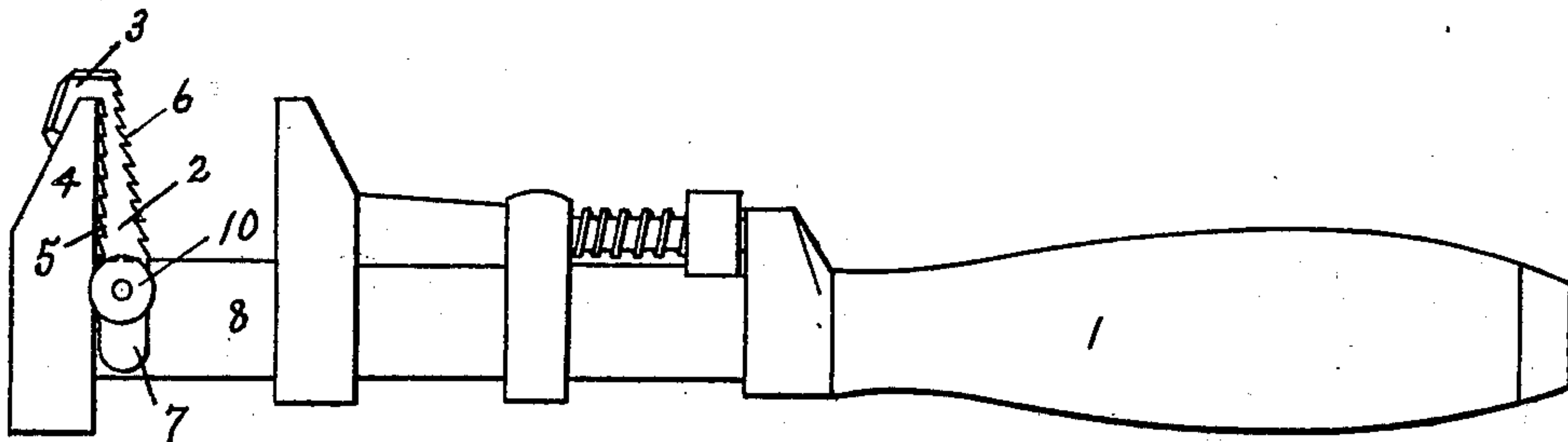


Fig. 1.

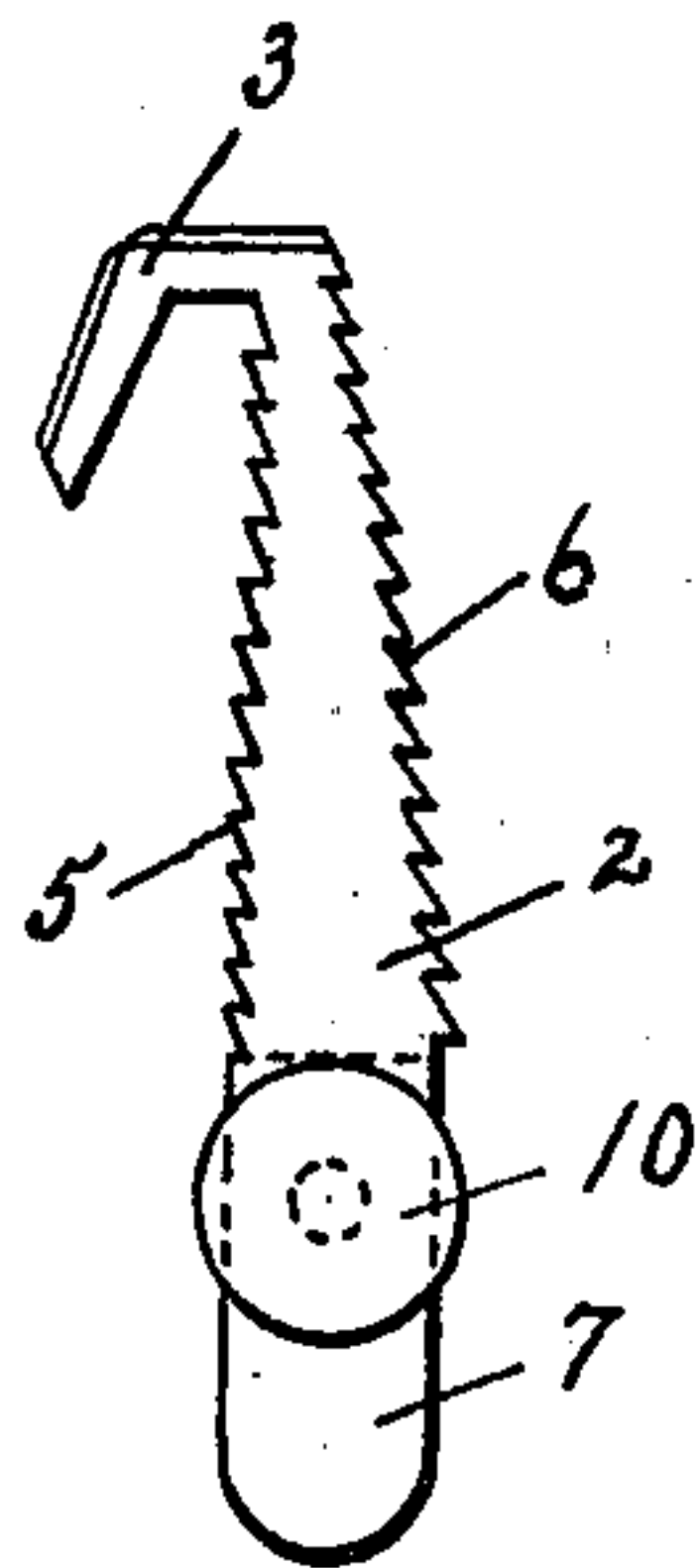


Fig. 2.

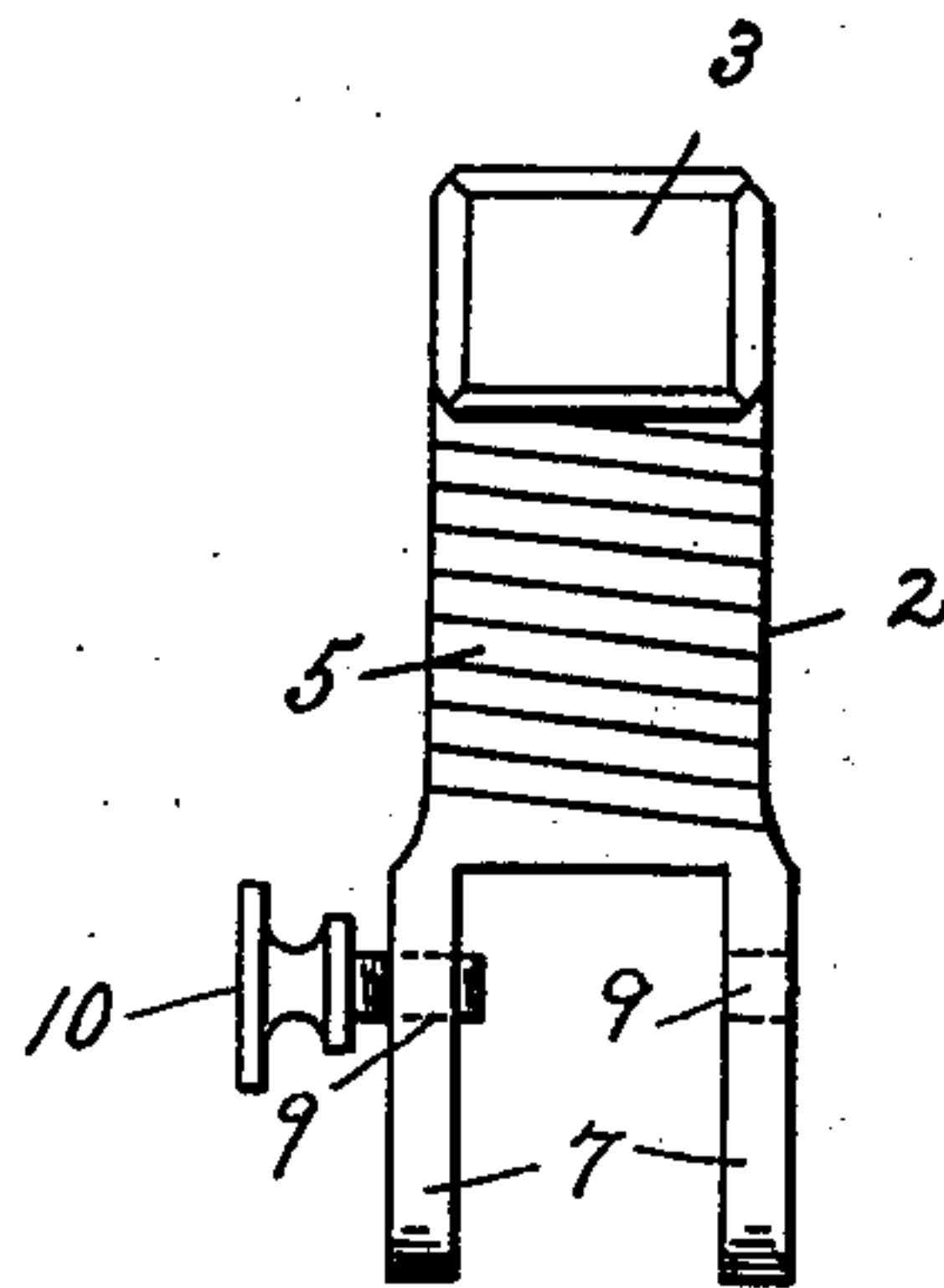


Fig. 3.

Witnesses:-
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UNITED STATES PATENT OFFICE.

HARRY B. CLARK, OF DERRY STATION, PENNSYLVANIA.

DETACHABLE ALLIGATOR-JAW FOR WRENCHES.

SPECIFICATION forming part of Letters Patent No. 681,388, dated August 27, 1901.

Application filed June 13, 1900. Serial No. 20,107. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. CLARK, a citizen of the United States, residing at Derry Station, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Detachable Alligator-Jaws for Wrenches, of which the following is a specification.

This invention relates to certain new and useful improvements in wrenches; and it has for its object the production of a removable and detachable alligator-jaw, whereby a nut-wrench can be readily and quickly converted into an efficient pipe-wrench.

A further object is to provide a device of this character which will insure a positive grip between the wrench and the pipe and a free release from said grip after the turn is made.

The invention will be hereinafter fully set forth, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a side view of a wrench with my invention applied thereto. Fig. 2 is a side view of the detachable jaw. Fig. 3 is a plan view thereof.

Referring to the drawings, 1 designates a nut-wrench, of any preferred form, having a stationary jaw 4, to which the detachable alligator-jaw 2 is designed to be secured. Said detachable jaw is provided at its forward end with a hook 3, designed to fit over the nose of jaw 4, and at its rear end with two parallel arms or members 7, adapted to embrace the shank 8 of the wrench. Each of the arms or members 7 is provided with a threaded hole or opening 9, arranged to receive a set-screw 10, which is designed to engage shank 8 and hold the jaw in place. The upper surface 5 of said jaw is made on a horizontal plane, so as to fit flush against the underside of jaw 4 of the wrench, said surface having teeth arranged diagonally thereacross and projecting forwardly, said teeth being in engagement with the smooth under surface of the jaw 4. The lower face 6 of the detachable jaw is arranged on a diagonal plane sloping away from the front of the jaw 4, said surface also having teeth projecting rearwardly and in an opposite direction to

the teeth of surface 5. It will thus be seen that the removable jaw 2 is of approximate wedge shape in form.

The operation of my improved wrench attachment is as follows: After the detachable member 2 has been secured in position over the jaw 4 of the wrench and the pipe or the like is placed between the jaws of the wrench the movable jaw of the latter is adjusted, so as to clamp said article between it and said member 2. Force is then exerted upon the wrench-handle to turn the pipe, the grip being secured by means of the detachable jaw 2 moving slightly forward parallel with and on the under face of jaw 4, said movement being away from the shank 8. This movement, by reason of the wedge shape of the detachable jaw, forces the pipe firmly between the lower jaw of the wrench and said detachable jaw. The teeth on the surface 5 of the jaw 2 and contiguous to the smooth surface of the jaw 4 before permanently engaging with the latter permit sufficient movement of the detachable jaw to produce the wedging action above described, thereby multiplying the gripping force and insuring the non-slipping of the wrench. When an additional bite is to be made, the wrench is turned in the opposite direction and the contra or opposite movement of the detachable member 2 takes place, which effectually releases the grip between the detachable jaw and the pipe and permits the wrench to be adjusted for the next turn.

From what has been said it will be observed that I have produced an attachment for wrenches which is exceedingly simple in construction and efficient in operation. It will be particularly noted that the movement of the detachable jaw on the face of the wrench-jaw, whereby the wedging action is produced, results from the force exerted to turn the pipe and is simultaneous therewith, said force being greatly multiplied, however, owing to the relatively long movement of the wrench-handle, which is necessary to produce the short movement of the detachable jaw. Another advantage of the wedging action lies in the fact that the strain is exerted transversely and tends to force the teeth into the object to

be turned, whereby liability of breaking or injuring the teeth is reduced to a minimum.

I claim as my invention—

5 The combination with a wrench, having a jaw provided with a smooth under surface, of a wedge-shaped member having its top surface on a horizontal plane and provided with teeth arranged to engage the smooth under surface of said wrench-jaw, the lower face of
10 said wedge-shaped member being inclined and provided with teeth arranged to engage a pipe

or the like, said member having a forward hook-like end and a rear bifurcated end, and a set-screw working in one of the arms of said bifurcated end, substantially as set forth. 15

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY B. CLARK.

Witnesses:

JOHN F. AMEND,

JAMES R. MOWRY.