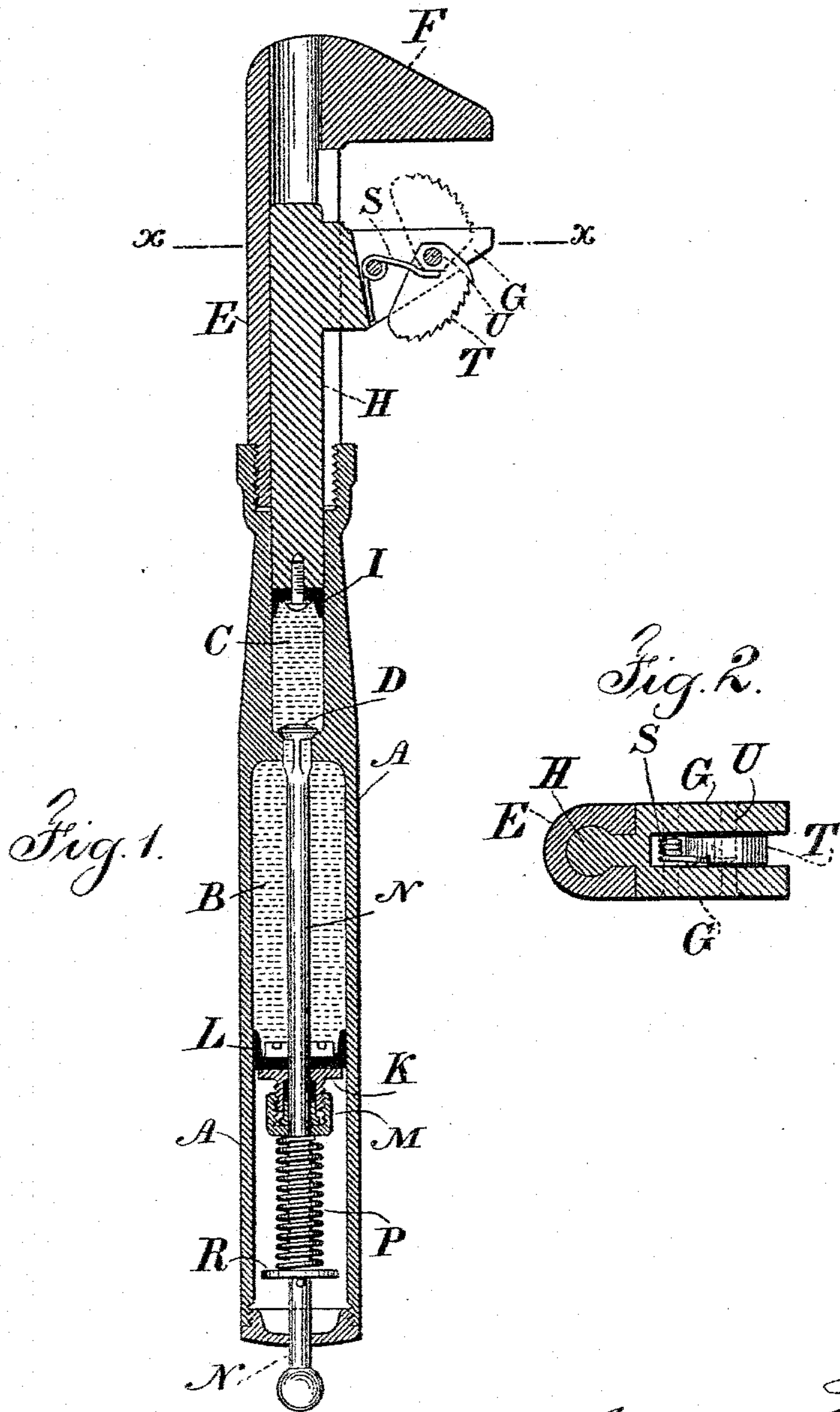


(No Model.)

A. PELLET.
WRENCH.

No. 491,222.

Patented Feb. 7, 1893.



Witnesses

Charles H. Smith
J. Staub

Inventor.

Auguste Pellet
Per Lemuel W. Serrell
Atty.

UNITED STATES PATENT OFFICE.

AUGUSTE PELLET, OF NEW YORK, N. Y.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 491,222, dated February 7, 1893.

Application filed December 2, 1892. Serial No. 453,832. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTE PELLET, a citizen of the Republic of France, residing at the city and State of New York, have invented an
5 Improvement in Wrenches, of which the following is a specification.

The non-compressible character of water, oil and other fluids is well known and has been availed of in hydraulic jacks, presses,
10 &c. In the present invention the movable jaw of the wrench is held against the article to be moved by a liquid within a confined space, and a valve is provided, so that this liquid can be allowed to escape easily when
15 the jaw is opened, and a plunger is used for forcing the liquid into the cylinder and moving the ram and its jaw up against the nut or other article to be acted upon.

In the drawings, Figure 1 is a longitudinal
20 section representing the improvement, and Fig. 2 is a cross section at the line $x x$.

The handle A is cylindrical and hollow and it is provided with two liquid holding chambers, the chamber B and the chamber C,
25 which are connected by a passage way containing a valve D, and there is an extension to the handle in the form of a slotted cylinder E that is connected at one end to the handle and provided at the other with a stationary
30 jaw F, and the moving jaw G is connected to a plunger or ram H that slides within the chamber C of the handle and is provided with a cup leather or hydraulic packing I at the inner end, and within the cylindrical cham-
35 ber B of the handle A is a piston K having a packing or cup leather L sliding against the interior of said handle A and a packing gland M is provided around the rod N of the valve D, and there is preferably a spring P around
40 said rod, acting between the piston K and a stop or disk R to force the piston K toward the valve D. It will now be understood that when the wrench is open, the jaws F and G can be applied at opposite sides of the nut or
45 other article to be grasped, and by pressing upon the knob or head of the rod N the valve D will be open and the spring P will move the piston K and force the liquid from the chamber B into the chamber C, and thereby
50 move the plunger or ram H along until the jaw G is brought up against the article that is to be moved, and by relieving the pressure

upon the rod N the spring P causes the valve D to close and the wrench is in a position for use, the jaws being held firmly at opposite
55 sides of the nut or other article to be moved. By pressing upon the rod N sufficiently to open the valve D the jaw G can be moved backwardly, the liquid in the chamber C being displaced by the plunger H and driven
60 past the valve D into the chamber B, the spring P yielding and allowing the piston K to move as the additional liquid is passed into the chamber B. By this means the wrench
65 is brought into action rapidly or easily removed from the article to which it has been applied.

In order to adapt this wrench to pipes or rods as well as to nuts or other polygonal articles, I slot the jaw G from the front edge
70 backwardly and apply within the same the toothed sector T pivoted at U and having flattened sides around its pivot, against which the spring S is caused to act so as to hold the
75 toothed sector in the position represented in Fig. 1, where it is out of action, or when the jaw has been opened, such toothed sector can be swung around so that its teeth face the
80 jaw F, and when a pipe or circular article is passed between the toothed sector T and the jaw F, the act of moving the handle of the wrench will cause the toothed sector to block,
85 hold and rotate the pipe or other circular article with facility, and under all circumstances the wrench is easily disconnected by simply opening the valve D to allow the liquid to escape from the chamber C.

It will be observed upon reference to Fig. 2, that the connection between the jaw G and the cylindrical plunger or ram H is narrower
90 than said plunger, in order that the plunger H may be guided by the hollow or tubular handle, and this connection between the plunger H and the jaw G moves in the slot at one side of the cylinder or stock E that is
95 connected with the handle F, hence pressure upon the jaw G cannot displace the plunger H from within the slotted cylindrical portion or stock E.

I claim as my invention:

1. The combination with the stationary jaw in a wrench, of a moving jaw, a cylinder in the handle of the wrench containing a liquid, a plunger or ram connected with the moving
100

jaw and acting within the cylinder of the handle, and a valve to confine the liquid within the cylinder of the handle, substantially as set forth.

5 2. The combination in a wrench, of a hollow handle containing two cylindrical chambers with an intervening passage and valve, a stationary jaw connected with the handle, a moving jaw and a plunger or ram within one of
10 the chambers of the handle, a stem connected with the valve, and a piston surrounding and moving upon the valve stem for acting upon the liquid in the second chamber of the handle, substantially as set forth.

15 3. The combination in a wrench, of a hollow handle containing two cylindrical chambers with an intervening passage and valve, a stationary jaw connected with the handle, a moving jaw and a plunger or ram within one of
20 the chambers of the handle, a stem connected

with the valve, and a piston surrounding and moving upon the valve stem for acting upon the liquid in the second chamber of the valve, and a spring to act upon the piston for moving the same and forcing the liquid from one cylinder into the other when the valve is open, substantially as set forth. 25

4. The combination with the stationary jaw, the ram and the liquid holding chamber and its valve, of a jaw, slotted, and a toothed sector pivoted within the slotted jaw, and a spring for retaining such toothed sector in one position or another, substantially as set forth. 30

Signed by me this 30th day of November, 35 1892.

AUGUSTE PELLET.

Witnesses:

GEO. T. PINCKNEY,

A. M. OLIVER.