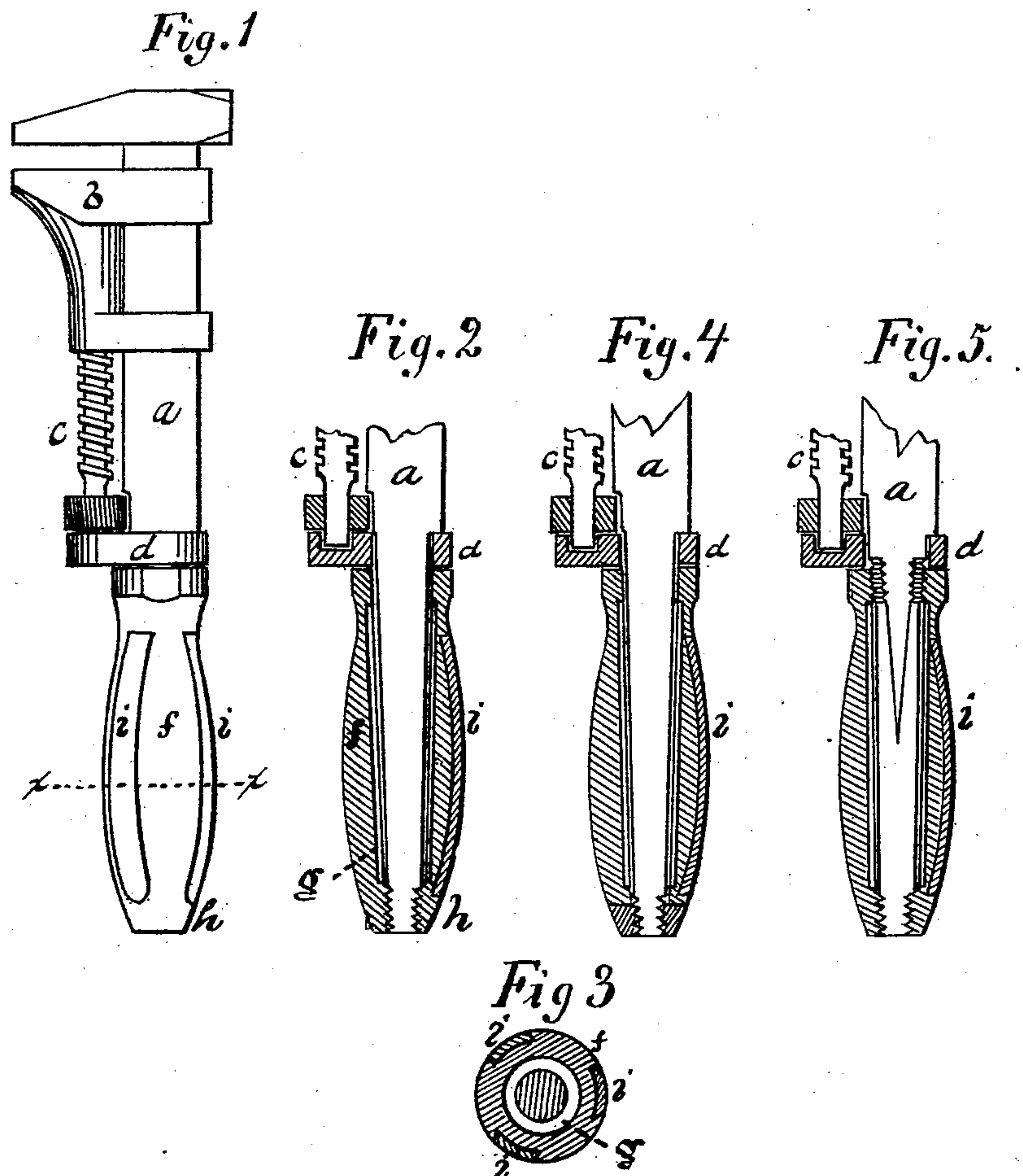


(No Model.)

L. CHAPMAN.  
Wrench.

No. 243,509.

Patented June 28, 1881.



Witnesses  
John Richter  
James J. Greene,

Inventor.  
Luke Chapman  
By W. E. Simonds  
Atty

# UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 243,509, dated June 28, 1881.

Application filed October 23, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented a certain new and  
5 useful Improvement in Wrenches, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a side view of a wrench embodying my improvement. Fig. 2 is a view similar  
10 to Fig. 1, with the handle cut in central longitudinal section. Fig. 3 is a cross-section view of the wrench on plane  $x x$ . Figs. 4 and 5 are modification views similar to Fig. 2, showing only the lower part of the wrench.

15 The improvement consists, mainly or virtually, in a handle for wrenches which combines the excellences of both metal and wood handles without the defects of either. A wood handle is very liable to split and break, particularly if the step-plate rests directly upon  
20 it, and a metallic handle is heavy, unpleasant to handle in cold weather, and wears so smooth as to be very slippery.

The letter  $a$  denotes the wrench-bar;  $b$ , the  
25 movable jaw;  $c$ , the operating-screw;  $d$ , the step-plate.

The handle consists of a cast (iron) metallic body,  $f$ , hollowed out on the inside by the chamber  $g$ , for the sake of lightness, fitting at the  
30 upper end on the bar and against the bottom of the step-plate. At the lower end there is a nut,  $h$ , made integral with the handle-body, and screwing upon the bar, threaded at this point. The outer surface of the handle body  
35 bears sunken mortises  $i$ , filled with wood (or the like) pressed into them, so that only a small portion of the surface of the handle, when it

is grasped in using, is metallic, the other and larger portion being wood. At the same time the ends are wholly metallic, and are thereby  
40 fitted for contact with and to take strains from other metallic parts. The metallic handle-body is of course fitted to bear and transmit such strains.

In Fig. 4 I show the nut answering to nut  $h$   
45 made as a separate piece. In Fig. 5 I show the handle fitted with integral nuts at both ends.

I have said that the mortises in the metallic handle are filled with wood or the like. By  
50 the expression "or the like" I mean other substance or material which in the present case will answer the purpose of wood—such as rubber, leather, horn, or compressed pulp, for instances. It is intended to force the filling into  
55 the mortises  $i$  under considerable pressure, to the end that such filling may remain in place, and the falling out of the filling may be guarded against by the use of any suitable cement  
60 on the sides and bottom of the mortises.

I claim as my improvement—

1. The metallic handle-body with metal ends, interiorly chambered and exteriorly mortised and filled with wood or the like, substantially as described.  
65

2. The metallic handle-body having a nut at the end integral therewith, and exteriorly mortised and filled with wood or the like, substantially as described.

LUKE CHAPMAN.

Witnesses:

OLIVER F. PERRY,  
GEORGE P. EDWARDS.