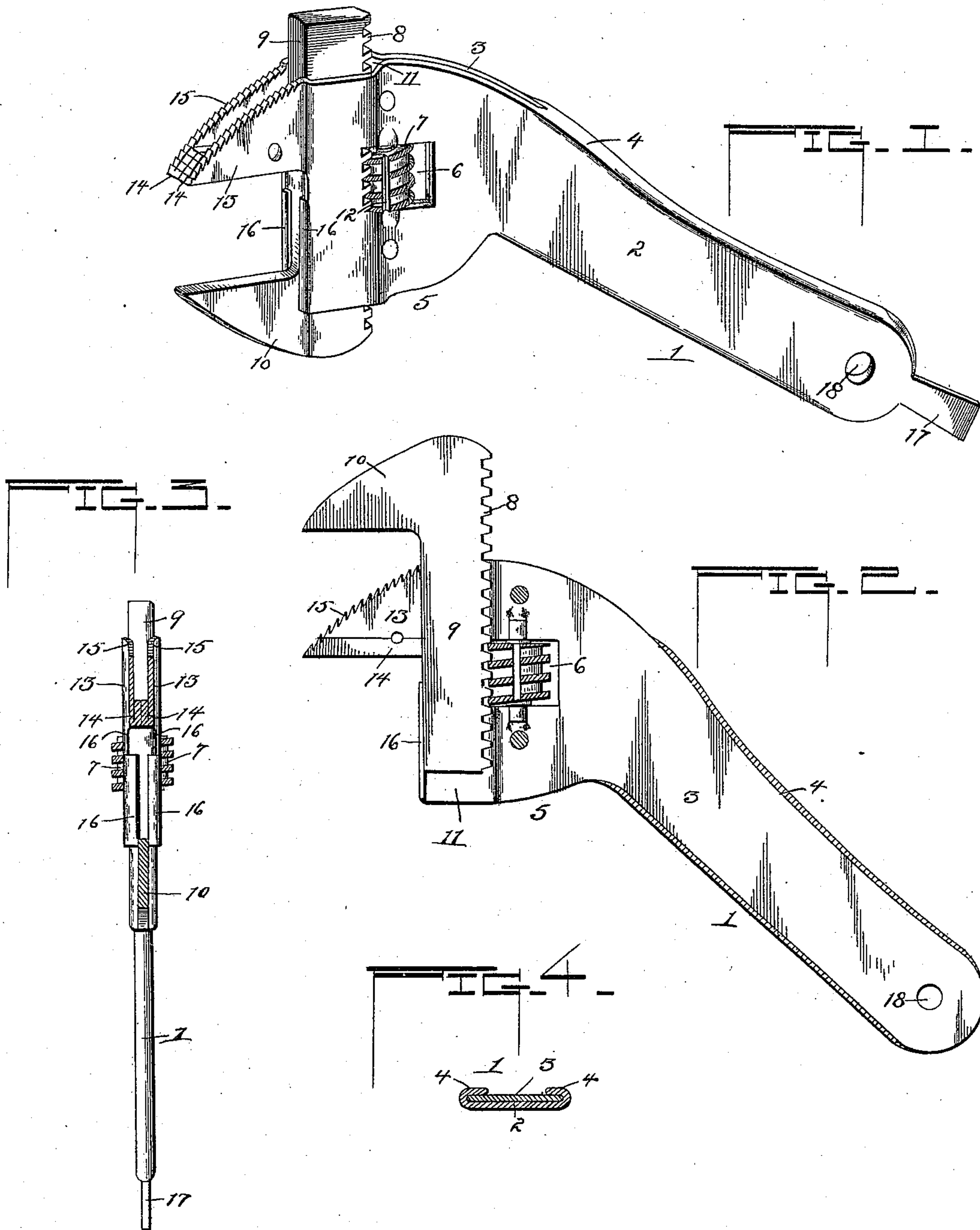


(No Model.)

P. B. CANFIELD.  
WRENCH.

No. 575,592.

Patented Jan. 19, 1897.



Inventor

Witnesses

Milton O'Connell By his Attorneys,

*J. F. Riley*

*Philip B. Canfield,*

Chas. H. Snow & Co.



# UNITED STATES PATENT OFFICE.

PHILIP B. CANFIELD, OF CORTLAND, NEW YORK.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 575,592, dated January 19, 1897.

Application filed March 18, 1896. Serial No. 583,791. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP B. CANFIELD, a citizen of the United States, residing at Cortland, in the county of Cortland and State of New York, have invented a new and useful Wrench, of which the following is a specification.

The invention relates to improvements in wrenches.

10 The object of the present invention is to provide a simple inexpensive wrench which will be light, strong, and durable and readily manufactured and which will be capable of operating effectively on nuts or pipes.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a wrench constructed in accordance with this invention and shown arranged for operating on nuts. Fig. 2 is a longitudinal sectional view of the same, the parts being  
25 arranged to form a pipe-wrench. Fig. 3 is a transverse sectional view illustrating the construction of the stationary jaw. Fig. 4 is a transverse sectional view of the handle, illustrating the manner of connecting the sides  
30 thereof.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a wrench-stock constructed of  
35 suitable sheet metal and composed of two sides 2 and 3, connected together along the handle portion by folding the side edges 4 of the side or section 2 over the side edges of the side or section 3. The stock of the wrench is  
40 provided with a head 5, formed by the two sides or sections and provided with a central opening 6, receiving a screw 7, journaled at opposite sides of the opening between the sides or sections of the stock or wrench, said  
45 sides or sections being connected at opposite sides of the openings adjacent to the bearings by rivets or other suitable fastening devices to prevent them from spreading. The screw engages or meshes with teeth 8 of a shank 9  
50 of an adjustable jaw 10, having its shank 9 disposed transversely of the head or stock and

arranged in a suitable opening or way 11, formed by bending the sides or sections 2 and 3 outward, as shown. The teeth 8 of the shank of the adjustable jaw are oppositely  
55 beveled and the screw is provided with a groove 12, adapted, when brought adjacent to the teeth 8, to form a passage or way for the same to permit the sliding jaw to be readily moved inward and outward to adjust the  
60 wrench quickly to a nut, pipe, rod, or the like.

The inner engaging edge of the adjustable jaw 10 is straight and coöperates with a stationary jaw 13, formed integral with the sides or sections 2 and 3 of the wrench-stock, and  
65 consisting of substantially triangular extensions forming the two sides of the jaw. The triangular extensions or sides of the stationary jaw have their inner edges 14 bent inward to strengthen the stationary jaw and to pre-  
70 vent the parts from collapsing in applying or tightening the rivets or other suitable fastening devices employed for connecting the sides or sections 2 and 3. The inwardly-bent edges 14 form abutting shoulders and space  
75 the sides of the stationary jaw, and the angularly-disposed outer edges of the sides of the stationary jaw are provided with teeth 15, adapted to coöperate with the straight edge of the adjustable jaw when the parts are ar-  
80 ranged, as illustrated in Fig. 2 of the accompanying drawings, to form a nut-wrench.

The adjustable jaw, which preferably consists of a forging, is of less thickness than the shank 9 and is adapted, when the parts  
85 are arranged as a nut-wrench, to enter the space between the sides of the stationary jaw to close the jaws sufficiently to obtain the desired grip. The upper or outer edges 16 of the sides or sections 2 and 3 are bent inward  
90 toward each other over the outer side edge of the shank 9 of the adjustable jaw. The parts are firmly connected and a slot or opening is provided at the outer longitudinal edge of the opening or way for the passage of the ad-  
95 justable jaw when the same is coöperating with the nut-engaging edge of the stationary jaw.

The handle portion of the stock is preferably straight and arranged at an angle to the  
100 head, as shown, and in constructing the wrench the parts are first cut or stamped out



of sheet metal by means of suitable dies, after which the holes are punched and the edges folded on each other by forming-dies.

One of the sides or sections is provided at the inner end of the stock with a screw-driver extension 17, and a hole 18 is provided adjacent to the inner end of the screw-driver extension to permit the wrench to be readily hung up when desired.

It will be seen that the wrench is exceedingly light, strong, and durable, that it is adapted to be readily and cheaply manufactured, and that it forms an effective pipe and nut wrench.

It will also be apparent that it may be conveniently carried and that it is especially adapted for bicycles and the like.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a wrench, the combination of a stock constructed of sheet metal and composed of two sides having their edges folded over each other, said stock consisting of a handle and a head provided with an opening and having a rigid jaw, a sliding jaw mounted on the head and having a transversely-disposed toothed shank, and a screw journaled in the opening of the head and meshing with the teeth of the shank, substantially as described.

2. In a wrench, the combination of a stock constructed of sheet metal composed of two sides and provided with a head having a transverse opening or way formed by offsetting the sides or sections, a stationary jaw arranged at one side of the head, an adjustable jaw provided with a toothed shank arranged in the transverse opening or way, and a screw mounted on the head and engaging the toothed shank, substantially as described.

3. In a wrench, the combination of a head constructed of sheet metal and provided with a transverse way, a stationary jaw arranged

at one end of the way and composed of two sides having their inner engaging edges bent inward forming shoulders and offsetting the sides, the outer edges of the sides being arranged at an angle and provided with teeth, an adjustable jaw having a shank disposed transversely of the head and arranged in the opening or way, said adjustable jaw being capable of reversal to enable it to cooperate with the inner and outer edges of the stationary jaw and being of a thickness to enter the space between the sides of the stationary jaw, and means for operating the adjustable jaw, substantially as described.

4. In a wrench, the combination with a head provided with a transverse way, a stationary jaw located at one end of the opening or way and provided with an inner nut-engaging edge and an outer angularly-disposed toothed or notched edge adapted to engage a pipe, a reversible and adjustable jaw having a shank arranged in the opening or way and adapted to cooperate with either of the engaging edges of the stationary jaw, and means for operating the adjustable jaw, substantially as described.

5. In a wrench, the combination of a stock constructed of sheet metal or similar material folded longitudinally to provide two sides, and secured at the sides by suitable fastening devices, said sides being oppositely offset and forming a transverse opening or way, a stationary jaw, a movable jaw cooperating with the stationary jaw and provided with a shank arranged in said transverse opening or way, and means for engaging the shank, whereby the movable jaw is secured in its adjustment, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PHILIP B. CANFIELD.

Witnesses:

J. W. DANIELS,

GEO. S. EDWARDS.