

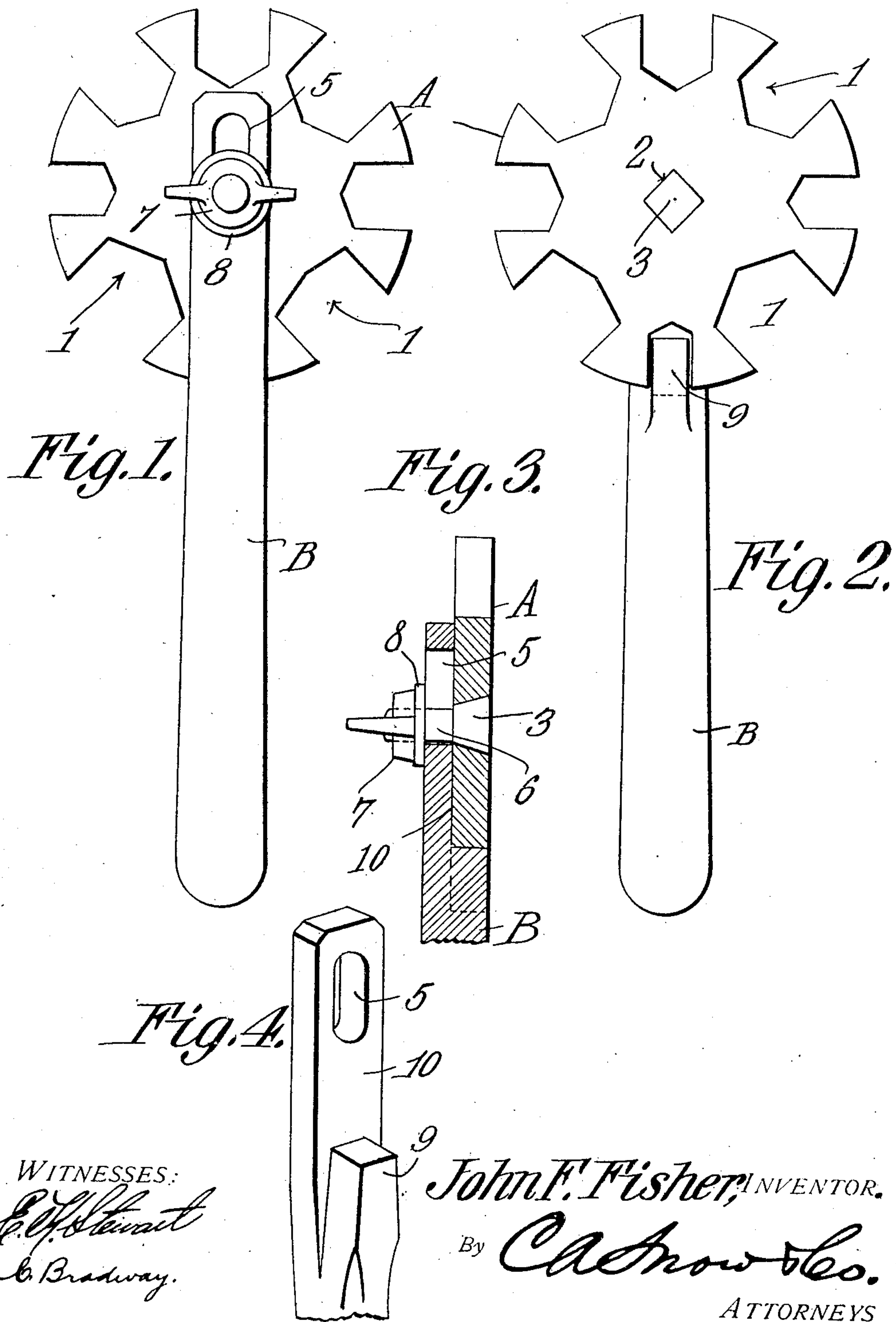
No. 878,197.

PATENTED FEB. 4, 1908.

J. F. FISHER.

WRENCH.

APPLICATION FILED JAN. 26, 1907.



# UNITED STATES PATENT OFFICE.

JOHN F. FISHER, OF OCEANA, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO EDGAR W. WORRELL, OF OCEANA, WEST VIRGINIA.

## WRENCH.

No. 878,197.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed January 26, 1907. Serial No. 354,296.

*To all whom it may concern:*

Be it known that I, JOHN F. FISHER, a citizen of the United States, residing at Oceana, in the county of Wyoming and State of West Virginia, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to a wrench of that type including a disk-shaped head provided with peripheral notches of different sizes to engage a large variety of nuts or bolts, the head being adjustably clamped to the handle of the wrench.

The invention has for one of its objects to improve and simplify the construction and operation of wrenches of this character so as to be comparatively easy and inexpensive to manufacture, readily manipulated, and strong and durable in structure.

A further object of the invention is to provide a wrench composed of few parts and so designed as to permit the head to be quickly and conveniently adjusted with respect to the handle.

With these objects in view, and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter, and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a plan view of the wrench. Fig. 2 is a bottom plan view. Fig. 3 is a longitudinal section of the wrench, a portion of the handle being broken away. Fig. 4 is a perspective view of the head carrying end of the handle.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

Referring to the drawing, A designates the head of the wrench and B the handle to which the head is adjustably attached. The head comprises, preferably, a metal disk having a plurality of radially extending nut seats or notches 1 which vary in size so that nuts or bolts of different sizes can be gripped in the notches. The center of the head A is provided with a squared and tapered opening 2 for receiving the head 3 of the clamping bolt, the outer end of which lies flush with the outer face of the head, thereby to permit the latter to lie flat on the work and also to pro-

tect the bolt head from injury. The handle B may be cast, forged, or otherwise formed, and is provided with a longitudinally extending slot 5 adjacent the head carrying end through which the shank 6 of the bolt extends. On the threaded end of the bolt is a winged nut 7, and interposed between the same and the top side of the handle is a washer 8. By means of the slot 5, the bolt carrying the head A can be moved in a direction longitudinal of the handle.

On one side of the handle is formed a tooth 9 which is adapted to engage in any one of the notches 1 of the head. This tooth is engaged in a notch by moving the head A bodily in a direction lengthwise of the handle. By the tooth thus engaging the head, the latter is prevented from turning as the wrench is used for screwing or unscrewing a bolt or other fastening. The portion of the handle extending beyond the tooth 9 is perfectly flat to form a bearing surface 10 for the head A. It will be noted by reference to Fig. 3 that the tooth is of the same thickness as the wrench head thereby to obviate the presentation of a projection that would be objectionable and would detract from the outlet of the tool. By means of the bolt, the head is held firmly against the flat surface 10 of the handle. The head 3 of the bolt is preferably countersunk so that the bottom side of the wrench will be perfectly flat. This head, being square, coöperates with the tooth 9 to prevent the head from turning on the handle.

When it is desired to adjust the head, the winged nut 7 is loosened sufficiently to permit the head to be slid outwardly to disengage the tooth 9 from the slot in which it was engaged. While the head is held in this outward position, it is turned so that the desired notch will be in such position as to conveniently grip the nut to be turned. The head is then shifted inwardly so that the tooth 9 will pass into the adjacent notch of the head, after which the wing nut is tightened so as to clamp the handle and head together. In shifting the head, the wing nut serves as a handhold for bodily moving the head, the handle being held in one hand, while the other hand takes hold of the nut.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily ap-



preciated by those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I  
5 now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that various changes may be made, when desired, as are within the scope of the claims.

10 What is claimed is—  
A wrench comprising a disk like head provided at its periphery with a plurality of nut seats of different sizes, a handle having a slot in one end and a tooth adjacent thereto  
15 and of the same thickness as the head, said tooth being arranged to engage the nut seats to hold the head against rotation, a bolt carried by the head and projecting through the slot, the bolt head being polygonal in form and flush with the outer face of the  
20 disk head, whereby an uninterrupted face is provided to engage the object operated upon, and a clamping nut carried by the bolt.

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

JOHN F. FISHER.

Witnesses:  
A. M. STEWART,  
GARLAND CHILDERS.