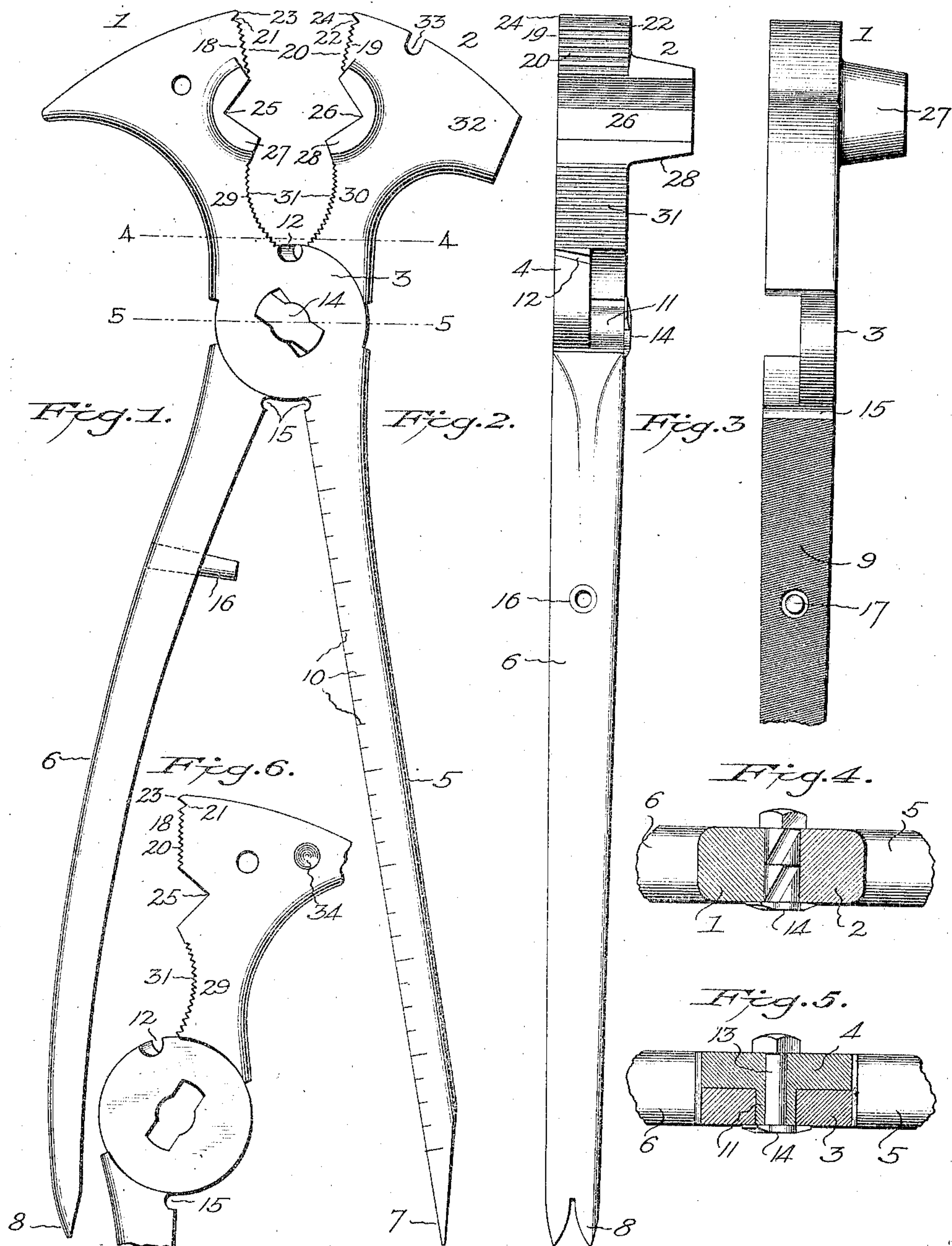


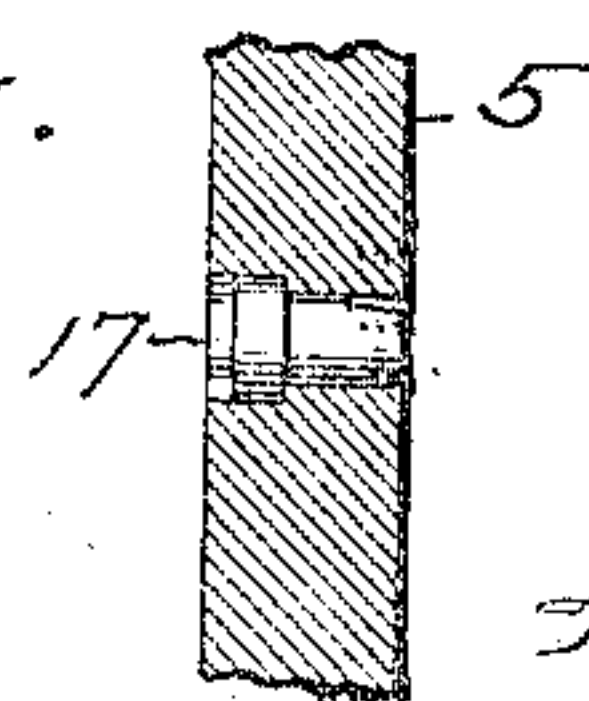
No. 850,319.

PATENTED APR. 16, 1907.

W. E. ROBINSON.  
COMBINATION TOOL.  
APPLICATION FILED FEB. 28, 1906.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

WILLIS E. ROBINSON, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF  
TO HENRY WILLIAMS, OF DENVER, COLORADO.

## COMBINATION-TOOL

No. 850,319.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed February 26, 1906. Serial No. 303,137.

*To all whom it may concern:*

Be it known that I, WILLIS EUGENE ROBINSON, a citizen of the United States of America, residing at the city and county of Denver and State of Colorado, have invented a new and useful Combination-Tool, of which the following is a specification.

My invention relates to improvements in combination-tools; and the object of my invention is to provide a wrench that combines in itself a number of tools that are useful in the shop, factory, house, or about a farm and for general use. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the tool, the jaws being partly opened. Fig. 2 is a side elevation of one member of the tool. Fig. 3 is a side elevation of a portion of the other member of the tool. Fig. 4 is a horizontal sectional view on the line 4 4 of Fig. 1. Fig. 5 is a horizontal sectional view on the line 5 5 of Fig. 1. Fig. 6 is a rear elevation of a portion of the jaw shown in Fig. 2, and Fig. 7 is a sectional view of a portion of the member shown in Fig. 3 on the line 7 7.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, the numerals 1 and 2 designate two jaws, each of which is provided with circular disk portions 3 and 4 and with handles 5 and 6, extending from the disk portions. The handle 5 is a straight handle, and a screw-driver edge 7 is formed at its end. The handle 6 is curved outward along the center of its length, with its terminal end standing normally close to the end of the straight handle, and a tack-pulling claw 8 is formed at its end. On the inside of the handle 5 a file-surface 9 is formed, and along one edge a scale 10 is formed.

Both jaw and handle portions of the wrench are of the same thickness but the disk portions of each are of but one-half the thickness of the handle, and they are placed on opposite sides of handle and jaw portions relative to each other, and the thicker ends of the jaws and handles are counterbored to form a circular recess in which the disk of one handle and jaw will fit and lie on the disk of the other handle. The upper side of the center of the disk of the tack-pulling handle is provided with a central hub 11, which projects above it the thickness of the other disk,

and through this hub and the disk I form an aperture in which I secure rigidly a bolt 13, which has an oblong-head portion 14. The disk of the opposite handle has an oblong hole that fits loosely over the hub portion of the opposite disk and permits the disk to be placed loosely over the oblong head of the bolt. This oblong-headed bolt is bolted rigidly to the hub, with the longest diameter of its length set at right angles to the length of the handle and jaw, while the oblong aperture in the disk of the other jaw and handle is arranged at such an oblique angle to the longitudinal length of the other jaw, that it is necessary to lay the two jaws together crosswise at an angle of about forty-five degrees in order to connect them together. The jaws will then swing from about this angle and be opened or closed without coming apart.

At the junction of the two handles with the pivotal disk portions of the wrench a semicircular groove 15 is formed, which when the handles are closed forms a round hole that is adapted to be used to insert wires in when it is desired to bend or twist them, and it can also be used for pulling nails. At a short distance from the disks the curved tack-pulling handle is provided with a hollow leather-punch 16, which extends through the center of the handle, and a punch-block 17 is secured to the file-surface of the opposite handle. The pivotal disks of both portions of each jaw at their central portions between the jaws are provided with wire-cutting grooves 12, which are preferably arranged at an oblique angle across the peripheral surface of the disk.

From the disk portions of the wrench the jaws extend forward in the form of a double-ended hammer, which meets at their ends on a line through the pivotal center of the jaws. Short flat portions 18 and 19 are formed on each jaw at their meeting portions, in which teeth 20 are formed that can be used for gripping various objects. The outer edges of both of these flattened toothed surfaces contain recesses 21 and 22, that form a pair of sharp cutting-lips 23 and 24, which form thin sheet-metal cutting-nippers and also can be used for nail-pullers, for which they are especially adapted. The center sides of these jaws are also each provided with V-shaped notches 25 and 26, which on one side of the jaws extend beyond their side surfaces



in the form of semicircular lugs 27 and 28, which when the jaws are closed form a round hub with a square hole through it and through the jaws that is adapted as a nut-wrench on either side of the jaws, the projecting portion of this hub being especially adapted to be inserted in the hubs of buggy-wheels to remove their axle-nuts. Between these nut-receiving apertures and the pivotal disks concaved pipe or rod receiving recesses 29 and 30 are formed on the inside edge of each jaw opposite each other, the surfaces of each of which are provided with ratchet-teeth 31, which are preferably arranged in opposite directions on each jaw and with their teeth positioned to cut into pipe or metal rods that are gripped between them. On the jaw of the handle 6 a nail-hammer 32 is formed, and in the end surface of this hammer a recess 33 is formed which is adapted to be used for bending tin or sheet-iron plates and for uses of that character.

The jaw 5 is formed into a riveting-hammer. Through this jaw I form a rivet-holding hole, which is adapted to receive a rivet when riveting work together, and on one side of this jaw a countersunk oval recess 34 is formed, which is adapted to be placed on one end of a rivet, and the other jaw to be separated from it and used as a hammer to pound on the jaw that is held on the rivet.

As the operation of each of the features of my improved wrench is well understood, further description is unnecessary.

My improved tool is very simple, easy and cheap to make, and makes a very complete, strong, and useful wrench. 35

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a combination-tool wrench, the combination in a tong type of wrench, of a pair of handles and nut and pipe jaws, having a pair of pivotally-centering disks, one disk of which is provided with a hub, a bolt secured to said hub and its disk, an oblong-shaped axial aperture in the opposite disk in which said hub projects rotatably and even with its opposite side, having a circular central portion fitting the body of said bolt, and an oblong head on said bolt fitting loosely the oblong hole in said disk and bearing against said disk's outer surface, and concentrically-curved recesses in each half of said handle in which each disk fits snugly and rotatably. 40 45 50 55

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

WILLIS E. ROBINSON.

Witnesses:

G. SARGENT ELLIOTT,  
KATHERINE V. BAKER.