J. L. HOFMANN.

COMBINED TOOL.

APPLICATION FILED APR. 26, 1919.

1,323,056. Patented Nov. 25, 1919.

Fig 1

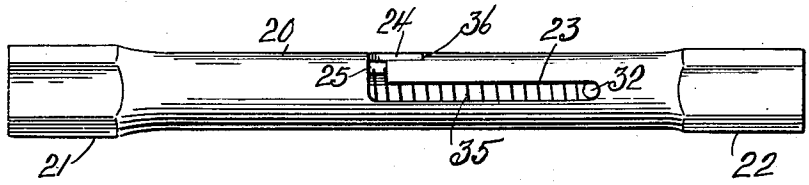


Fig 2

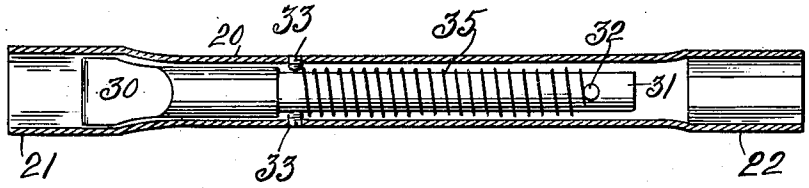


Fig 3

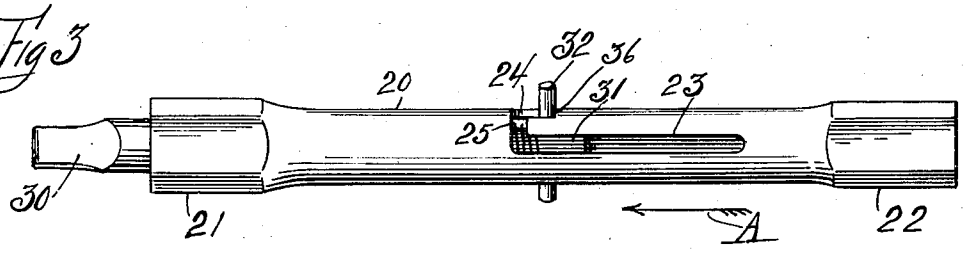


Fig 4

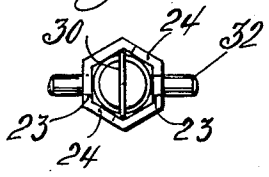
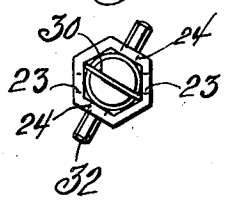


Fig 5



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UNITED STATES PATENT OFFICE.

JOHN LOUIS HOFMANN, OF ELIZABETH, NEW JERSEY.

COMBINED TOOL.

1,323,056. Specification of Letters Patent. Patented Nov. 25, 1919.

Application filed April 26, 1919. Serial No. 292,777.

To all whom it may concern:

Be it known that I, JOHN LOUIS HOFMANN, a citizen of the United States, and resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Combined Tools, of which the following is a specification.

This invention relates to a combined tool comprising a screw-driver and socket wrench.

In the drawings Figure 1 represents an outside elevation of the combined tool; Fig. 2 shows a view similar to Fig. 1 with a portion in vertical axial section; Fig. 3 is a view similar to Fig. 1 with some of the elements in a different position; Fig. 4 represents a left-hand end view of Fig. 1; and Fig. 5 shows a left-hand end view of Fig. 3.

The tool is represented with the tubular casing 20 having the flared hexagonal ends 21 and 22. The hexagonal end 22 in this case is somewhat smaller in cross-section than the end 21. A pair of U-shaped slots each with the main member 23, the parallel second member 24, and the connecting member 25, are formed in the tubular casing 20. The corresponding members of the slots are diametrically opposite each other. A screwdriver is indicated with the blade 30 and the shank 31. An operating pin 32 extends through an opening in the shank 31 and engages the slots in the tubular casing. A pair of stop pins 33 extend into the tubular casing 20. A spring 35 encircles the shank 31 and bears between the stop pins 33 and the operating pin 32.

In Figs. 1, 2 and 4 the screwdriver is located within the tubular casing 20 of the tool, and the spring 35 bearing between the pins 33 and 32 maintains the screwdriver in said position within the casing. In Fig. 3 the screwdriver is shown with its blade 30 out of the casing 20; and to bring it to this position from that shown in Figs. 1, 2 and 4, the operator bears on the pin 32 and moves the same in the direction of the arrow A in the main members 23 of the slots, until the connecting members 25 are reached, when the pin is moved through an angle of about thirty degrees in said members 25. The operator then releases the pin 32, which by reason of the tension of the spring 35 will be forced in a direction opposite to the arrow A in the slots 24, and be locked in the bottom 36 of each of the latter slots. The location of the connecting members 25 of the slots is such that the screwdriver is turned through its angle of thirty degrees when the blade 30 is outside of the casing 20. The blade 30 when it is completely out of or completely in the casing is located with its edges in line with a pair of apexes of the hexagonal end 21. By this means the blade 30 can be made wider than if it turned to its different positions when in the casing.

The hexagonal ends 21 and 22 can be used as socket wrenches.

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

1. The combination of a tubular casing having hexagonal ends and a pair of slots, a movable tool with its shank in the casing having a blade wider than the distance between the inner faces of the flat sides of one of the hexagonal ends and less in width than the distance between the apexes thereof, an operating pin extending through an opening in the tool and engaging said slots, stop pins extending into the casing, and a spring bearing between said stop pins and the operating pin.

2. In a device the combination of a tubular casing having a pair of U-shaped slots with the members thereof diametrically opposite each other and having a hexagonal end, a movable tool having a blade with its shank in the casing, an operating pin extending through an opening in the tool and also extending through said slots, stop pins extending into the casing, a spring encircling the tool and bearing between the stop pins and the operating pin, the elements disposed so that the blade of the tool when in the casing is located in the direction of a plane connecting the apexes of the hexagonal end.

3. In a device the combination of a tubular casing having a pair of U-shaped slots with the members thereof diametrically opposite each other, each slot comprising a main member, a second parallel member, and a connecting member, the casing also having hexagonal ends, a movable tool having a blade with its shank in the casing, an operating pin extending through an opening

in the tool and also extending through said slots, stop pins extending into the casing, and a spring encircling the tool and bearing between the stop pins and the operating pin, the elements disposed so that when the tool is within the casing the operating pin is located within the main members of the slots, and located in the second parallel members of the slots when out of the casing.

Signed at Elizabeth, in the county of Union and State of New Jersey, this 10th day of April, A. D. 1919.

JOHN LOUIS HOFMANN.