

M. D. KELLY.  
Watchmakers' Tool.

No. 106,372.

Patented Aug. 16, 1870.

Fig. 2.

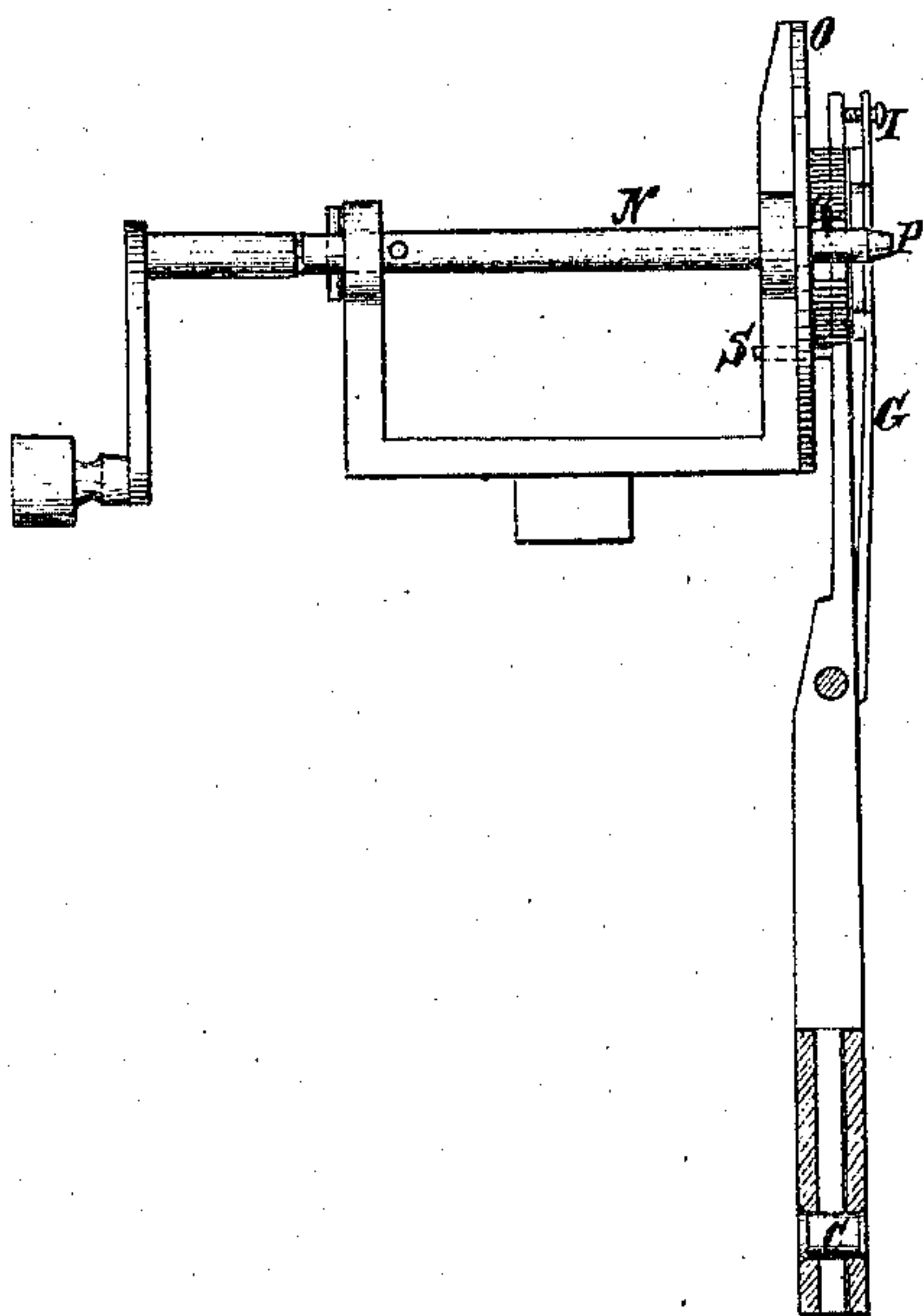


Fig. 1.

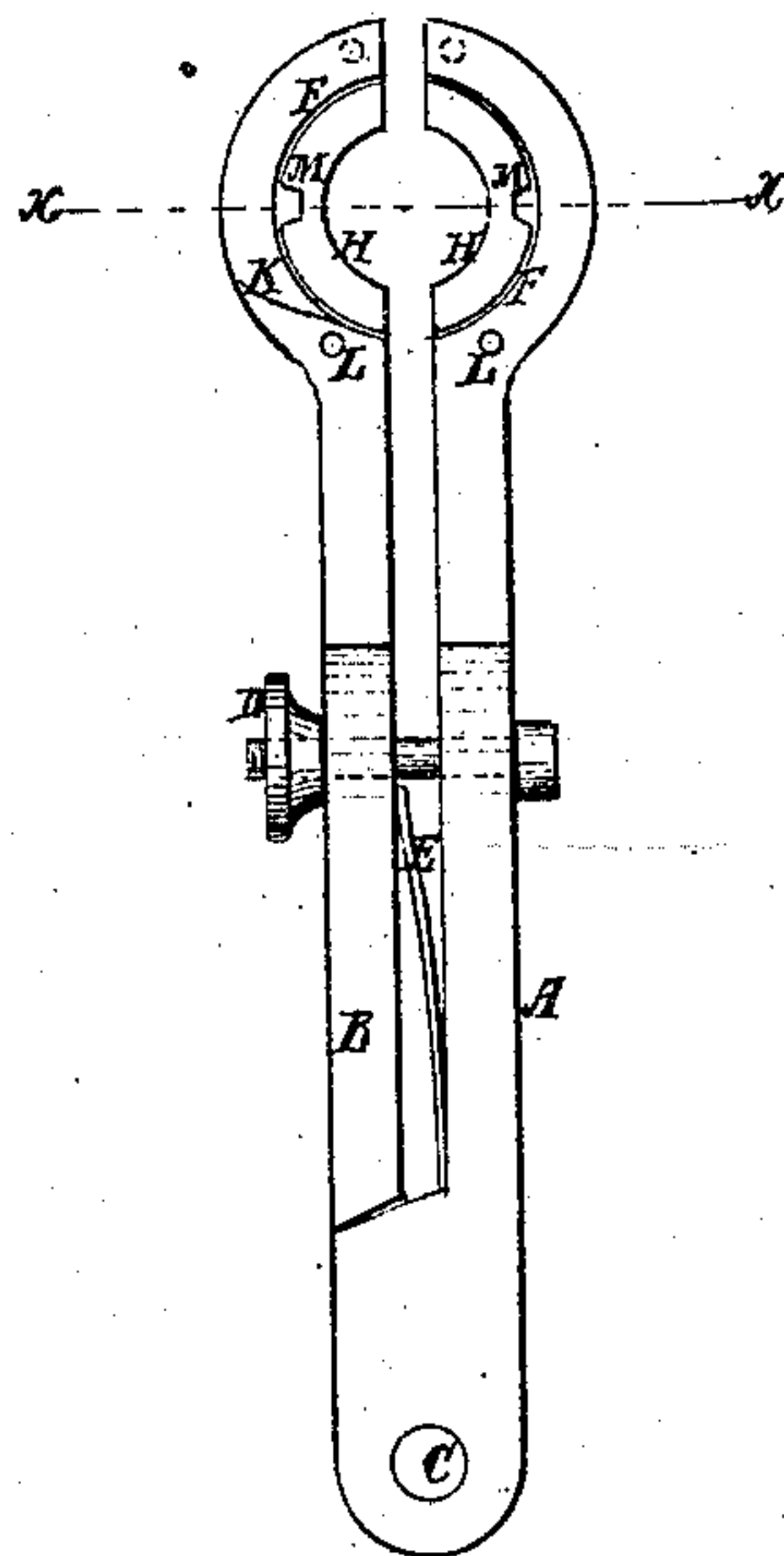
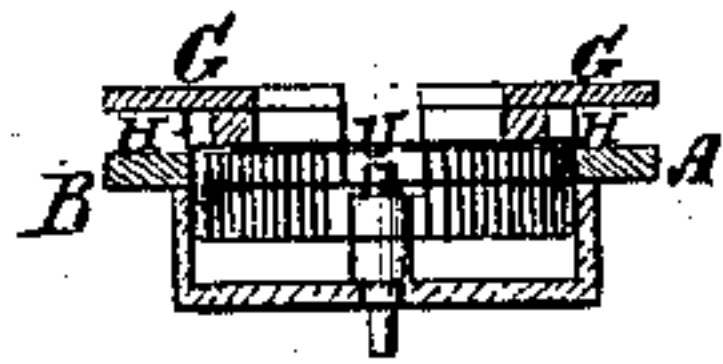


Fig. 3.



Witnesses:

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PER

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# United States Patent Office.

MICHAEL D. KELLY, OF CADIZ, KENTUCKY.

Letters Patent No. 106,372, dated August 16, 1870.

## IMPROVEMENT IN DEVICES FOR WINDING MAINSPRINGS OF WATCHES.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern :*

Be it known that I, MICHAEL D. KELLY, of Cadiz, in the county of Trigg and State of Kentucky, have invented a new and improved Mainspring-Winder; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in tools for winding the mainsprings of watches, and inserting them in the barrels, and consists of a pair of bars pivoted together, at one end, by a compass or rule joint, and having a semicircular recess at the free end for the reception of the spring, to be coiled therein by a winding-shaft of any kind, and the said bars are provided with gauging-springs to vary the depth of the recesses; also with pins for gauging the recesses to receive the springs, and for controlling the relation of the winder with the winding-shaft.

The said bars are also provided with an opening-spring and closing-screw, all as hereinafter more fully described.

Figure 1 is a plan view of my improved winder;

Figure 2 is a sectional elevation of the same. Also a side elevation of a winding-shaft and plate to be used with it; and

Figure 3 is a transverse section of the same taken on the line *xx* of fig. 1.

Similar letters of reference indicate corresponding parts.

A and B represent the said two bars, made of metal, in any suitable length, and jointed at C by a rule or any other suitable joint;

D is a closing-screw; and

E a spring for forcing them open.

The free ends are made broad, and have semicircular recesses, F, in the edges fronting each other, which together inclose a space about the size of, or little less than, the barrels in which the springs are to be placed.

G represents spring plates, attached to the bars at one side, and carrying semicircular rings, H, which fit the recesses F, and move in and out of them side-wise.

The spring plates G are provided with pins or screws, I, screwing into the plates A B, to prevent the springs from being moved away too far, or to let the rings H be forced out of the recesses.

The bar B is made thinner opposite the recesses, so as to have a shoulder, K, leading from the outside edge to the recess, tangential, or nearly so, to the wall of the recess.

L represents pins projecting from the bars near the recesses, which are to gauge the recess for the spring to the size of the barrel into which the spring is to be placed, by placing them inside of the barrel and unscrewing till they come against the side wall of the barrel.

These pins also control the relation of the winding-shaft with the barrel, as will be hereinafter more fully described.

M represents recesses in the rings H, for the studs on the ends of American watch-springs, by which they are attached to the barrels, the said recesses being to make room for the projections to allow the springs to coil snugly.

This improved tool is used in connection with a winding-shaft, N, and a face-plate, O, of the common sort, or any other, suitably arranged in the following way:

The uncoiled spring is placed on the plate around the projecting end P of the shaft, which is provided with a small spur, Q, that engages in the hole in the end of the spring.

The tool is then placed with the recessed face against the spring, and the pins L are engaged with holes in the plate, as shown as S, so as to hold the tool in the proper position in relation to the plate O and shaft N.

The shaft is then turned by the crank, and the spring wound thereon and drawn into the recess, being guided thereto by the wall K.

As soon as the coil is completely drawn into the recess the tool is pressed toward the plate, so as to force the spring into the recess enough for it to be confined therein by the walls thereof; but it will project sufficiently to be transferred to the barrel by placing the latter over the springs, and then forcing it out of the tool by the spring plate G, or by opening the bars A B, and letting the spring expand against the inner wall of the barrel.

The end of the spring attached to the shaft P, is detached from the spur thereon by turning the shaft backward, and allowing the inner part to expand sufficiently to spring away from the stud.

This improved tool is especially adapted for inserting springs into barrels having the central studs U, as the space at the center of the coil is free for the reception of the stud.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The winding and transferring-tool, composed of the bars A B, jointed together as described, provided with the recesses F, spring plates and rings H, guide-shoulder K, pins L, and the screw D and spring E, all substantially as specified.

2. The combination, with a winding-shaft N and plate O, of the improved tool herein described, substantially as specified.

The above specification of my invention signed by me this 7th day of April, 1870.

MICHAEL D. KELLY.

Witnesses:

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