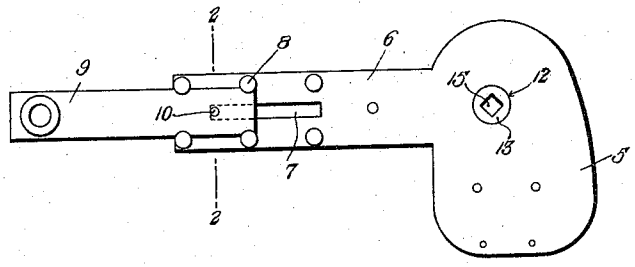
W. ENDLICH.

WINDING DEVICE FOR CLOCKS.

APPLICATION FILED MAR. 9, 1915.

1,175,730. Patented Mar. 14, 1916.

Fig. 1.



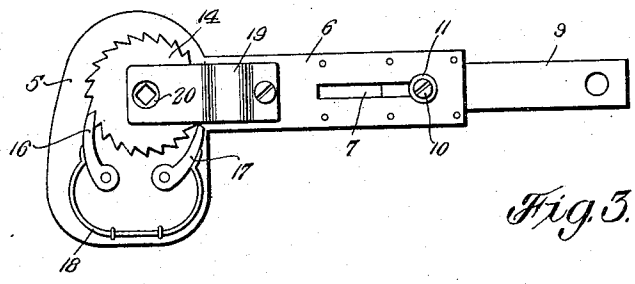


Fig. 3.

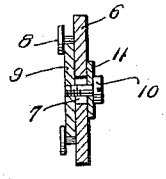


Fig. 2.

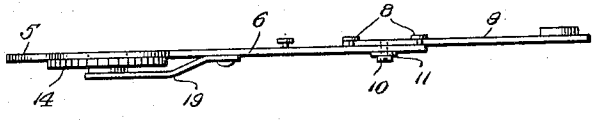


Fig. 4.

Inventor

William Endlich,

Witnesses

J. H. Crawford.

F. L. Yates.

By Victor J. Evans

Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

WILLIAM ENDLICH, OF KEWASKUM, WISCONSIN.

WINDING DEVICE FOR CLOCKS.

1,175,730. Specification of Letters Patent. Patented Mar. 14, 1916.

Application filed March 9, 1915. Serial No. 13,185.

To all whom it may concern:

Be it known that I, WILLIAM ENDLICH, a citizen of the United States, residing at Kewaskum, in the county of Washington and State of Wisconsin, have invented new and useful Improvements in Winding Devices for Clocks, of which the following is a specification.

The invention relates to a winding device, and more particularly to the class of ratchet keys for winding arbors of main springs of clocks.

The primary object of the invention is the provision of a ratchet key of this character wherein the main spring for clock mechanism can be conveniently wound upon its arbor for the placing of a ring or yoke on the spring so that the latter can be removed from the clock mechanism for repairing the same.

Another object of the invention is the provision of a ratchet key of this character wherein the ratchet wheel can be readily reversed so that either main spring for the time or striking mechanism of a clock can be conveniently wound when repairing the same, the key being of novel form, and the ratchet wheels for use therewith are interchangeable so that the key is adaptable to different sizes of spring arbors.

A further object of the invention is the provision of a key of this character which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim hereunto appended.

In the drawing: Figure 1 is a side elevation of a ratchet key constructed in accordance with the invention. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a rear elevation thereof. Fig. 4 is an edge elevation of the same.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the ratchet key comprises a head 5 having a stem or shank 6 which is provided with an elongated slot 7 disposed longitudinally and centrally in the said stem or shank, while mounted in the latter and projecting from one face thereof on opposite sides of the slot 7 are spaced guide lugs 8 between which are slidably fitted an extensible handle 9 in which is threaded a set screw 10, the same being passed through the slot 7 and has its head working against a washer 11 which bridges the slot 7 and frictionally engages one face of the stem or shank 6, and in this manner the handle 9 is fastened in adjusted position.

Formed in the head 5 is an opening or hole 12 in which is removably engaged one end of the hub 13 of a ratchet wheel 14, the hub being formed with a squared opening 15 corresponding to the size of the squared end of a main spring arbor for either the striking or time mechanism of a clock. Pivoted upon the head 5 are spaced reversely acting ratchet pawls 16 and 17, respectively, the pawls 16 being adapted to engage the teeth of the ratchet wheel 14 for locking the same against rotation in one direction, yet permitting it to freely rotate in the opposite direction, while the other pawl is adapted to engage the teeth of the wheel 14 to lock it against rotation in one direction when said wheel is reversed and thereby permit the ratchet connection for the winding of main springs in clocks in event that one spring necessarily winds in one direction, while the other spring winds in the reverse direction. It is of course understood that the wheel 14 can be detached so that it may be reversed, and the pawls 16 and 17 will lock it in either of its adjusted positions on the reversal thereof. Fixed upon the head 5 is a wire spring 18, the ends of which engage the respective pawls 16 and 17 to hold the same in active position relative to the wheel 14 for the positive locking of the wheel during the use of the ratchet key.

Detachably fixed upon the stem or shank 6 and extended over the hub 13 of the wheel 11 is a guard 19 which prevents the accidental disengagement of the hub 13 from the hole 12 in the head 5 of the key, the guard 19 being provided with a hole 20 registering with the opening 15 in the hub 13 of the wheel 11 so as not to interfere with the engagement of the ratchet wheel on the main spring arbor when the key is to be used for the winding of the main spring in a clock. It is of course to be understood that ratchet wheels 14 having different sizes of openings

15 therein will be used, and for this reason the said wheel 14 is detachably mounted upon the key so that the wheel having the proper opening can be substituted for the fitting of the same on the key end of the main spring arbor, and thus in this manner the key can be employed for the winding of main springs with arbors of different sizes at their key engaging ends. The extension of the handle 9 permits a variance in the leverage of the ratchet key, as will be clearly apparent, and also permits the said key to be used for the winding of main springs where the arbors of such springs are arranged in close relation to each other in the time and striking mechanism of a clock.

From the foregoing description, taken in connection with the accompanying drawing, the construction and manner of operation of the device will be clearly understood, and therefore a more extended explanation has been omitted.

What is claimed is: —

A device of the class described comprising a body having a flat head portion and a rectangular shank extending at right angles to said head portion, a ratchet device mounted on said head, a metallic strip having one end secured to said shank and its remaining end arranged to hold said device upon said head, two series of headed studs secured to said shank in parallel relation and a handle held in sliding contact with one side of said shank by said studs.

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

WILLIAM ENDLICH.

Witnesses:

W. A. REMMIL,

B. H. ROSENHEIMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."