To all whom it may concern:

Be it known that I, Edgar E. Phinney, a citizen of the United States of America, and resident of West Orange, in the county of
Essex and State of New Jersey, have made a certain new and useful invention in Crank-Handle Latches; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a front view of the left-hand end of a calculating machine embodying the invention, with parts in section.

Fig. 2 is a detail side view of the latch, the disengaged position thereof being shown in dotted lines.

Fig. 3 is a detail elevation of the crank handle.

Fig. 4 is a detail fragmentary view of the latch lever and the slotted portion of the crank handle extension.

The invention has relation to means for detachably retaining an operating crank handle of a machine in engagement with a gear wheel or member driven by said handle, and is shown as applied to a calculating machine of the general type of the reissue patent to Baldwin No. 19,841, although obviously useful in other machines.

An object of the invention is to provide a readily releasable and engageable handle retaining means. Other objects and advantages will appear.

The invention consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the side frame plate 1 of the machine is provided with a lateral tubular or sleeve extension 10, whereon is journaled the gear wheel 76, forming part of the operating gear train of the machine, the operating crank handle 3 being provided with a short stud shaft extension 79, rotatably and slidably engaging the bore of said sleeve, and with a stud or pin extension 11, engaging a seat or recess 12 in the gear wheel 76, and whereby said gear wheel is driven.

A latch lever 13 is fulcrumed at 19, intermediately of its length, to frame 1, the lower arm of said lever being provided with a semicircular recess 20, the marginal edge of which normally engages an annular groove 15, located at the inner end of the extension 79, to prevent removal of the crank handle, being held from frictional engagement or contact with the inner circumferential wall of said groove by engagement of the terminal end of said arm with a stop pin 18.

The upper arm of the latch lever projects through the top plate 103 of the machine at 17, and is capable of operation by pressure of one finger when the crank handle is grasped for removal or for reengagement with the machine. In removing the crank handle, the latch lever is operated and assumes the position shown in dotted lines in Fig. 2 of the drawings, the upper arm 17 thereof working in a slot of said top plate. In reengaging the handle with the machine the latch lever is similarly operated.

The latch lever is provided with a spring 16, normally holding it in engagement with the groove of the stud shaft extension of the handle 3, and the operation of said lever is against the tension of said spring.

When the handle 3 is in position, the outer vertical wall of the groove 15 lies flush with the inner end of the sleeve 10, so that any strain upon the latch, through outward movement of the shaft 79, will be taken up by the sleeve.

I claim:

1. In a device of the character described, a machine having a stationary sleeve, a rotary driving member journaled upon said sleeve, an operating handle having driving engagement with said member and provided with a stud shaft rotatably and slidably engaging the bore of said sleeve and provided at its inner end with an annular groove, and a retaining lever operable in a plane at right angles with the axis of said stud shaft and engaging said groove.

2. In a device of the character described, a machine having a stationary sleeve, a rotary driving member journaled upon said sleeve, an operating handle having driving engagement with said member and provided with a stud shaft rotatably and slidably engaging the bore of said sleeve and provided at its inner end with an annular groove,
and a manually operable retaining lever engaging said groove and having bracing engagement with the end of said sleeve.

3. In a device of the character described, a machine having a stationary sleeve, a rotary driving member journaled upon said sleeve, an operating handle having driving engagement with said member and provided with a stud shaft rotatably and slidably engaging the bore of said sleeve and provided with an annular groove, a manually operable spring retaining lever engaging said groove, and a stop, said lever being adapted for engagement with said stop to avoid contact with the inner wall of said groove.

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

EDGAR E. PHINNEY.

Witnesses:

L. D. TAGGART,
E. F. BRITTEN, Jr.