F. E. CASE.

LOCK FOR HANDLES.

APPLICATION FILED DEC. 5, 1913.

1,237,242.

Patented Aug. 14, 1917.

Fig. 1.

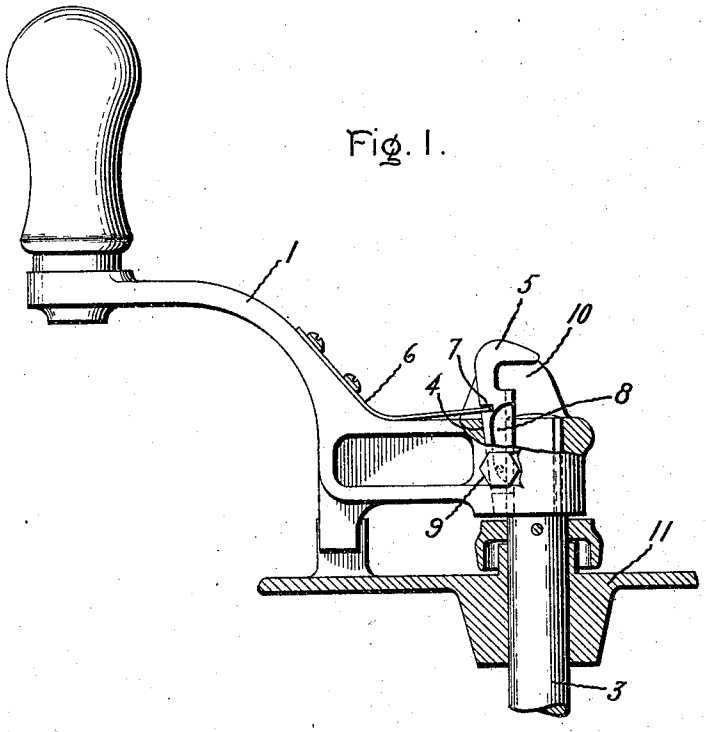
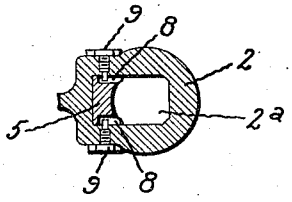



Fig. 2.




Witnesses:
M. J. Youmans
J. Elbi Eller

Inventor:
Frank E. Case,
by Albert G. Davis
His Attorney

# UNITED STATES PATENT OFFICE.

FRANK E. CASE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## LOCK FOR HANDLES.

1,237,242. Specification of Letters Patent. Patented Aug. 14, 1917.

Application filed December 5, 1913. Serial No. 804,845.

*To all whom it may concern:*

Be it known that I, FRANK E. CASE, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Locks for Handles, of which the following is a specification.

My invention has reference to a handle for controllers and the like, and more particularly to means for locking a controller handle to the controller shaft, although it will be obvious that my invention is not limited to such use, and it has for its object the provision of a simple and efficient device of this character.

For a fuller understanding of my invention, reference may be had to the accompanying drawing, in which Figure 1 is a side elevation of the controller handle partially broken away and showing the top of the controller casing in section, and Fig. 2 is a transverse section of the hub of the handle in which the controller shaft is received.

In the drawings, 1 is the handle which I have here shown as a controller handle provided with a hub 2 having a socket $2^a$, preferably oblong in transverse section, as shown in Fig. 2, within which a shaft 3 may be received. In the embodiment of my invention here shown, one of the inner end walls of the socket is inclined at 4. A wedge 5 is adapted to be received in the socket between the inclined wall 4 and the shaft 3. A spring 6, mounted on the handle, engages a transverse slot 7 in wedge 5 and is biased to force the wedge home into position between the inclined wall and the shaft in order to securely lock the handle to the same. The wedge is provided on either side with slots or grooves 8 within which are received the inner ends of screws 9 which pass through the hub of the handle and which keep the wedge in position within the slot when the handle is removed from the controller shaft. The upper end of the wedge 5 is provided with a notch or opening 10 above which is a lug or projection which preferably extends over the controller shaft so that the wedge may be conveniently pried loose by means of the reverse lever or other device, using the upper end of the controller shaft as a pivot. The top of the controller casing is indicated by the reference numeral 11.

In assembling the parts of the handle, the spring is first secured thereto and the wedge then placed in position so that the free end of the spring will engage the transverse slot 7. The screws 9, 9 are then placed in position to engage the slots 8, 8 in order to keep the wedge in position within the socket $2^a$. Now, when the hub of the handle is forced down over the shaft the friction between the wedge and the parts engaged thereby slightly elevates the wedge relatively to the socket, so that the handle is readily brought to its final position. When in this position, the spring forces the wedge into locking position between the wall of the socket and the shaft, and as the spring continuously exerts a downward pressure upon the wedge, it will be apparent that any lost motion, such as would tend to result from the intermittent movement of the handle, will be taken up by the wedge, and that such intermittent movement will only cause the spring to gradually force the wedge into firmer locking engagement.

In accordance with the provisions of the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft, a spring secured to the handle adjacent the hub and engaging the wedge to hold it in locking position, and means for readily disengaging said wedge from its locking position.

2. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft, a spring secured to the handle adjacent to the hub and engaging the wedge to hold it in locking position, means for keeping said wedge in position when the handle is removed from the shaft, and means for readily disengaging said wedge from its locking position.

3. A handle for controllers and the like

having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft and provided with means by which said wedge may readily be disengaged from its locking position, and means for normally holding said wedge in locking position.

4. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft and provided with means by which said wedge may readily be disengaged from its locking position, and a spring for normally holding said wedge in locking position.

5. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft and provided with means coöperating with the controller shaft for readily disengaging said wedge from its locking position, and a spring secured to the handle and engaging said wedge for normally holding the same in locking position.

6. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge having a head for loosening it secured to the hub and slidably mounted in the socket to lock the handle to the shaft, a spring mounted on the handle and means whereby pressure of the spring is applied to the wedge to hold it in locking position and is removed when the wedge is loosened.

7. A handle for controllers and the like having a hub provided with a socket for receiving the shaft to be operated, a wedge movable in said socket for locking the handle to the shaft and provided with a projection extending over the controller shaft by which the wedge may be disengaged from its locking position, and a spring secured to the handle adjacent to the hub and engaging the wedge to hold it in locking position.

8. A handle for controllers and the like having a hub provided with a socket for receiving the controller shaft, and means for preventing movement of said hub relative to said shaft comprising a wedge received between the shaft and the wall of the socket, a spring secured to said handle and engaging said wedge and biased to force the wedge home, and means for readily disengaging said wedge from its locking position.

In witness whereof, I have hereunto set my hand this 3rd day of December, 1913.

FRANK E. CASE.

Witnesses:
ELIZABETH F. PECK,
BENJAMIN B. HULL.

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