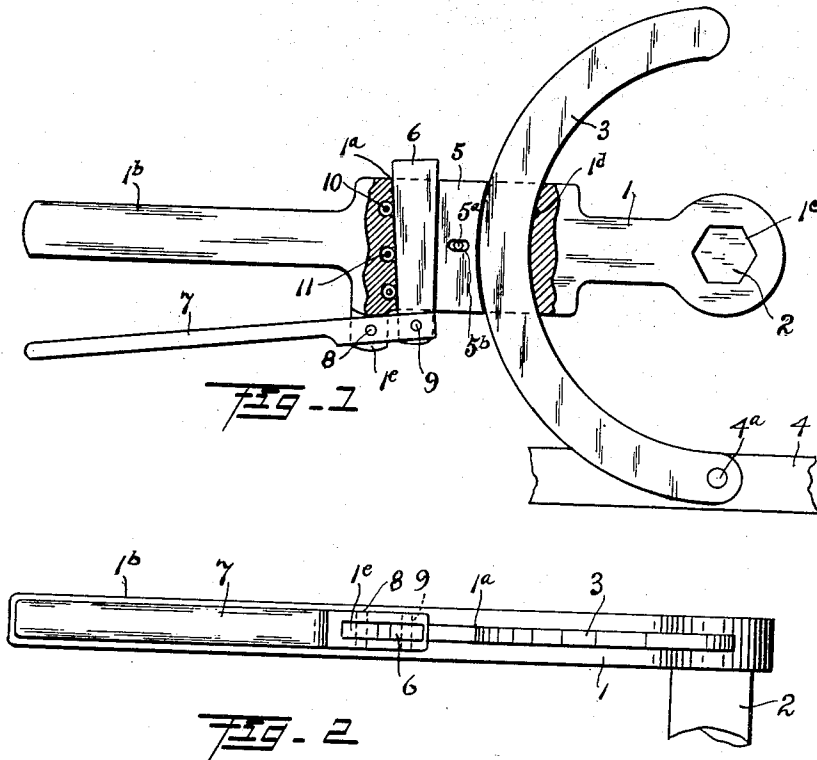


J. VERDERBER.  
MECHANICAL MOVEMENT.  
APPLICATION FILED JUNE 3, 1919.

1,333,951.

Patented Mar. 16, 1920.



Inventor  
Joseph Verderber  
By Chas. H. Hillman Att'y.

# UNITED STATES PATENT OFFICE.

JOSEPH VERDERBER, OF CLEVELAND, OHIO.

## MECHANICAL MOVEMENT.

1,333,951.

Specification of Letters Patent. Patented Mar. 16, 1920.

Application filed June 3, 1919. Serial No. 301,430.

*To all whom it may concern:*

Be it known that I, JOSEPH VERDERBER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification.

My invention relates to improvements in mechanical movements, and more particularly to lever mechanism including improved means for operating, adjusting and locking the same in various positions.

The primary object of the invention is the provision of a generally improved mechanism of the class indicated, which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

It will be apparent that the improved mechanism movement embodying the improved lever mechanism is capable of a wide range of use and application, the present embodiment of the invention being particularly designed and adapted for use where a fine adjustment is desired and where it is desirable to lock the lever securely in any adjusted position.

The improved mechanism is particularly well adapted for the regulation of reverse and throttle levers where slight variations of the position of the lever and exactness are required or desired and where safety and practicability require that the lever shall remain where set until purposely reset.

With the above mentioned and other ends in view, the invention consists in the novel construction, arrangement and combination of parts, hereinafter described, illustrated in one of its embodiments in the accompanying drawings, and particularly pointed out in the appended claim.

Referring to the accompanying drawings, forming a part of this specification, Figure 1, is a side elevation of a lever mechanism constructed in accordance with this invention, a portion of the walls of the lever being broken away for the purpose of clearer illustration of the principal working parts. Fig. 2, a bottom view of the same.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

The mechanism to be operated may be, of course, attached to the operating or hand

lever in any suitable and convenient manner, the operating lever 1, in the present embodiment of the invention, being attached to a rock shaft 2, as shown in Figs. 1 and 2, of the drawings, the mechanism to be operated upon being operated through the rock shaft 2, or if desired, the rock shaft may be merely used as a pivotal or fulcrum point and the lever may be attached beyond or within such fulcrum point, as is a common practice in connection with hand operating levers.

The lever 1, is provided with a slot or opening 1<sup>a</sup>, adapted to receive and contain a quadrant or sector bar 3. The curvature of the latter is struck from the central portion of the fulcrum or pivotal point of the lever. The lever 1, is preferably provided with a handle 1<sup>b</sup>, and, if desired, may be provided with a fulcrum or pivot opening 1<sup>c</sup>, if it is desired to mount the lever substantially as illustrated in the drawings.

The quadrant or sector bar 3, may be connected at one end to a fixed or supporting member 4, and is preferably pivotally connected by means of a pivot 4<sup>a</sup>, so as to have free movement in the opening or slot 1<sup>a</sup>, as shown in Figs. 1 and 2, of the drawings.

As a means of locking or unlocking the lever in its various adjusted positions with respect to the quadrant or sector bar 3, the lever 1, is provided with a movable locking block or shoe 5, adapted to frictionally engage and coöperate with the quadrant bar 3, at one side of the latter and to move toward and from a fixed abutment 1<sup>d</sup>, of the lever, said abutment 1<sup>d</sup>, in the present instance, being formed at the front of the slot or opening 1<sup>a</sup>, so that as the locking block or shoe 5, is moved toward and from the same, the quadrant bar will securely clamp or disengage in an obvious manner.

As a means of moving the locking block or shoe 5, into and out of engagement with the quadrant or sector bar 3, the lever 1, is provided with a second movable member 6, adapted to coöperate with and move the block or shoe 5, said movable block or shoe actuating member being connected to an auxiliary lever 7, pivotally mounted on and carried by the main lever 1, said auxiliary lever 7, being preferably mounted beneath the handle portion 1<sup>b</sup>, through the medium of bearing lugs 1<sup>e</sup>, provided with a pivot bolt

or member 8, connected to the block or shoe actuating member 6, by means of a second pivot bolt or member 9.

In the form or embodiment shown in Figs. 1 and 2, of the drawings, the lever 1, is adapted to be positively locked, as against movement in either direction.

In the form shown in Figs. 1 and 2, of the drawings, the second or lock actuating member 6, is in the specific form of a vertically movable wedge, and as a means of moving the block 5, the wedge member 6, is drawn downwardly by means of the auxiliary lever 7, and when it is desired to release the block 5, the wedge member may be moved upwardly by reverse movement of the auxiliary lever 7. The block 5, is adapted to be held within the slot or opening 1<sup>a</sup>, by means of a cross pin 5<sup>a</sup>, extending through a longitudinally extending slot 5<sup>b</sup>.

As a means of decreasing friction in the vertical or block moving and releasing movements of the wedge shaped member, the latter is adapted to move over a plurality of anti-friction rollers 10, mounted on suitable bearing pins 10<sup>a</sup>.

The auxiliary lever 7, is preferably provided with a slot 7<sup>a</sup>, so as to permit some slight longitudinal movement in the actuation of the toggle member 6, and as a means of normally causing such toggle member and the attached shoe 5, to move downwardly and toward the curved portion of the bar 3, the outer end of the auxiliary lever is provided with a spring 12, interposed between

the free end of the lever 7, and the handle portion 1<sup>a</sup>, of the main lever.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

Having thus described one of the embodiments of my invention, what I claim and desire to secure by Letters Patent is,—

In a lever mechanism, a lever having a sector receiving opening, a pivoted quadrant bar movable in the latter, a movable locking block in said sector receiving opening and having a curved friction portion in coöperative relation with the curved adjacent portion of said quadrant bar, means for removably retaining said block in movable relation to said quadrant bar, a movable block actuating wedge member in said sector receiving opening of said lever in movable contact with said locking block and adapted to move the latter into and out of gripping relation to said quadrant bar, anti-friction rollers in said sector receiving opening in engagement with said wedge member at the side opposite the side in engagement with said movable locking block to receive the thrust of said wedge member as actuated against said block, and an auxiliary lever pivotally connected on said lever and pivotally connected to and adapted to move said block actuating wedge member.

In testimony whereof I have affixed my signature.

JOSEPH VERDERBER.