Sept. 23, 1947. H. B. MUELLER 2,427,804

LEVER LOCK

Filed Nov. 19, 1945

Fig. 1

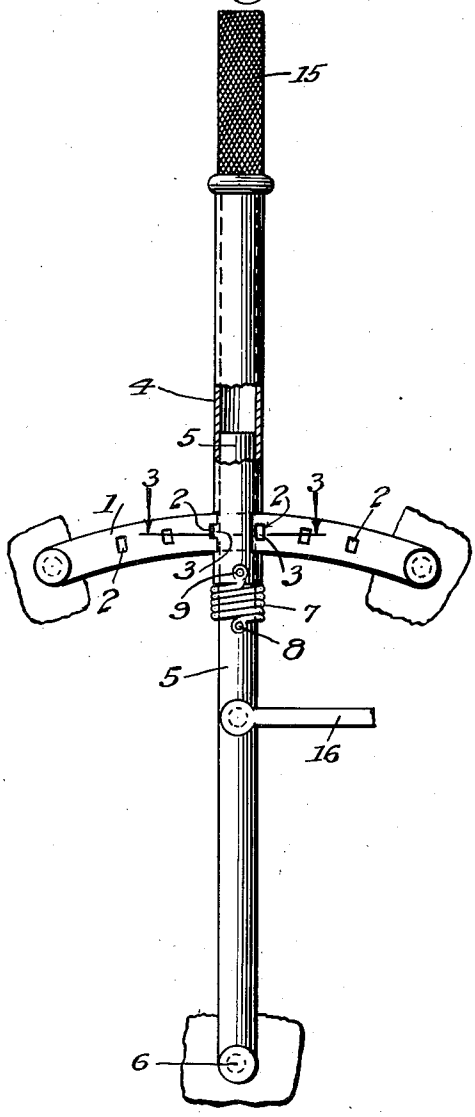


Fig. 2

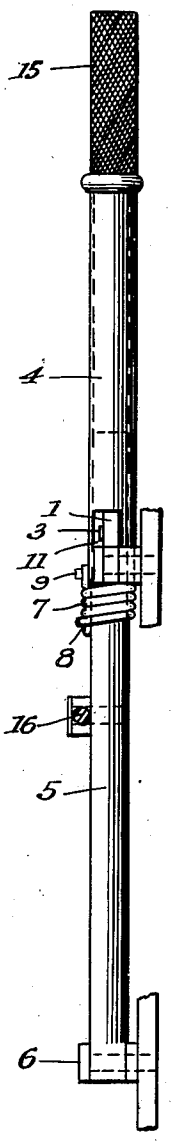


Fig. 5

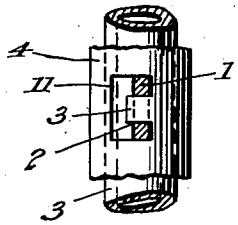


Fig. 6

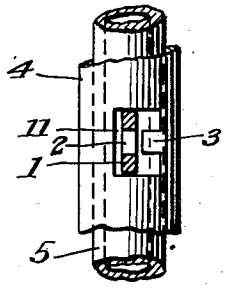


Fig. 3

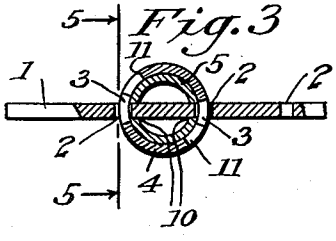
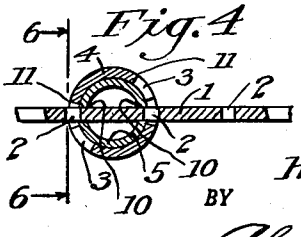


Fig. 4



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LEVER LOCK

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2 Claims. (Cl. 74—536)

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This invention relates to lever locks, and more particularly to a lever lock of the segmental type.

The general object of the invention is to provide a segmental lever lock which will lock a lever in different positions more securely than the conventional segmental lever lock.

A more particular object is to provide a lever lock of the character stated which is more simple in construction and easier to operate than the conventional segmental lever lock.

Another object is to provide a segmental lever lock with none of its parts protruding from the lever.

A further object is to provide a segmental lever lock of the character stated which locks the lever against movement in both directions.

Other objects and advantages will appear hereinafter as this specification progresses.

The invention is illustrated in the annexed drawing which forms a part of this specification and in which:

Fig. 1 is a side elevation of my segmental lever lock shown applied to a lever and in locking position, locking the lever against swinging movement in either direction.

Fig. 2 is an edge view of Fig. 1.

Fig. 3 is a cross section of my segmental lever lock taken on line 3—3 of Fig. 1, and showing the lever locked by my segmental lock.

Fig. 4 is a view like Fig. 3, but showing my lock in its unlocked position and the unlocked lever swung a short distance along the segment from its position on Figs. 1 and 3.

Fig. 5 is a fragmentary transverse vertical section of my segmental lever lock taken on line 5—5 of Fig. 3.

Fig. 6 is a fragmentary transverse vertical section of my segmental lever lock taken on line 6—6 of Fig. 4.

Referring more particularly to the drawing, in which the same parts are designated by the same reference numerals in all of the figures, 1 designates an arcuate segment provided with a plurality of longitudinally spaced slots 2 therein to receive two latches 3 on a cylindrical tubular sleeve 4, turnably fitted on the upper portion of a tubular lever 5, pivoted at its lower end at 6, which lever is surrounded by a coil spring 7, connected at one end to said lever at 8 and at its other end to said sleeve 4 at 9, for normally holding said sleeve with its latches 3 in engagement with two of the slots 2 in the segment 1, and thereby locking said lever in a predetermined position, in the manner hereinafter more fully described.

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The arcuate segment 1 is in the form of an arc described from the center of the pivot 6 of the lever 5. Said tubular lever is provided with two diametrically opposite slots 10 extending longitudinally thereof, through which slots loosely extends the segment 1, and the sleeve 4 is provided with two openings 11 arranged diametrically opposite to each other, through which openings said segment also extends, so that said lever and said sleeve may be swung from the lever pivot 6 over the segment 1 lengthwise in either direction, and which openings in the sleeve 4 permit a limited turning movement of said sleeve on the said lever 5 and the segment 1.

The latches 3 are formed at one side of the openings 11, respectively, in the sleeve 4 and extend laterally into said openings from said sides thereof, to be projected into two adjacent segment slots 2 upon turning of said sleeve 4 in one direction.

The upper edges of the openings 11 in the sleeve 4 rest upon the upper edge of the segment 1 and form bearings for said sleeve by limiting the downward movement of said sleeve on the lever 5, but enabling swinging movement of said sleeve with said lever over the segment 1 and enabling turning movement of said sleeve on said lever. The upper edges and lower edges of the openings 11 in the sleeve 4 rest adjacent the upper and lower edges, respectively, of the segment 1, and maintain said sleeve on said lever with the latch 3 in position to be projected into two of the slots 2 in segment 1, upon turning of said sleeve under the influence of the spring 7. On the upper end of the sleeve 4 is formed a handle 15 to be grasped to swing the lever 5 and said sleeve on the pivot 6 of said lever.

To the lever 5 may be connected one end of a link 16, which may be connected at its other end to a device or mechanism to be operated by said link upon swinging said lever and thereby moving said link.

The operation of my invention is as follows:

Assuming the lever 5 and the sleeve 4 to be locked to the segment 1 in the position shown in Fig. 1, and it is desired to pull the rod 16 to actuate the device or mechanism to which the remote end of said rod is connected; the handle 15 is grasped by the hand of the operator and said handle and the sleeve 4 are first turned counterclockwise (Figs. 1 and 3) against the tension of the spring 7 until the latches 3 are withdrawn from the two slots 2, into which the latches were projected as shown in Fig. 4; the lever 5 is then swung either forwardly or backwardly by the op-

erator grasping the handle 15, until the link 16 is moved the required distance to actuate the mechanism or device to which said link is connected, and the latches 3 are brought into registration with two slots 2 in the segment 1, whereupon the sleeve 4 is turned clockwise, Fig. 3, by the operator grapsing the handle 15, until the latches 3 are projected into two slots 2 with which said latch is brought into registration, thus locking the lever 5 in the position to which it is swung. The lever 5 is held locked to the segment 1 by the spring 7 until the sleeve 4 is again turned to withdraw the latches 3 from the slots 2 into which the latches are projected.

I claim:

1. A lever lock comprising the combination of a lever, a sleeve turnable on said lever, said lever and said sleeve being provided with slots, a segment extending through said slots in said lever and said sleeve to permit swinging movement of said lever and said sleeve over said segment, the slots in said sleeve permitting turning movement of said sleeve on said lever and said segment, said segment being provided with a plu-

rality of slots, and latches on said sleeve extending laterally from one side of said slots in said sleeve to be projected into two of said slots in said segment upon turning said sleeve for locking said lever in different positions to which it may be swung.

2. A lever lock as set forth in claim 1 including a spring for normally holding said sleeve in position with said latches projected into two of the slots in the segment and locking said lever against swinging movement.

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REFERENCES CITED

The following references are of record in the file of this patent:

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