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W. HONSCHEID.

LOCK FOR LEVERS, &c.

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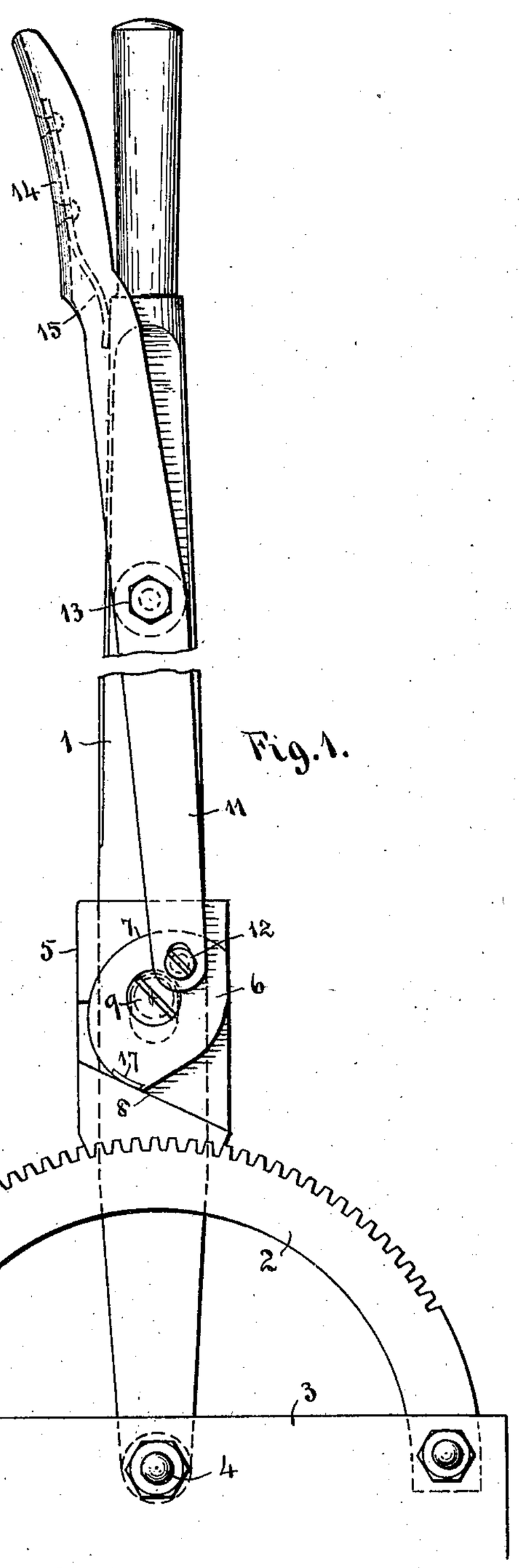


Fig. 1.

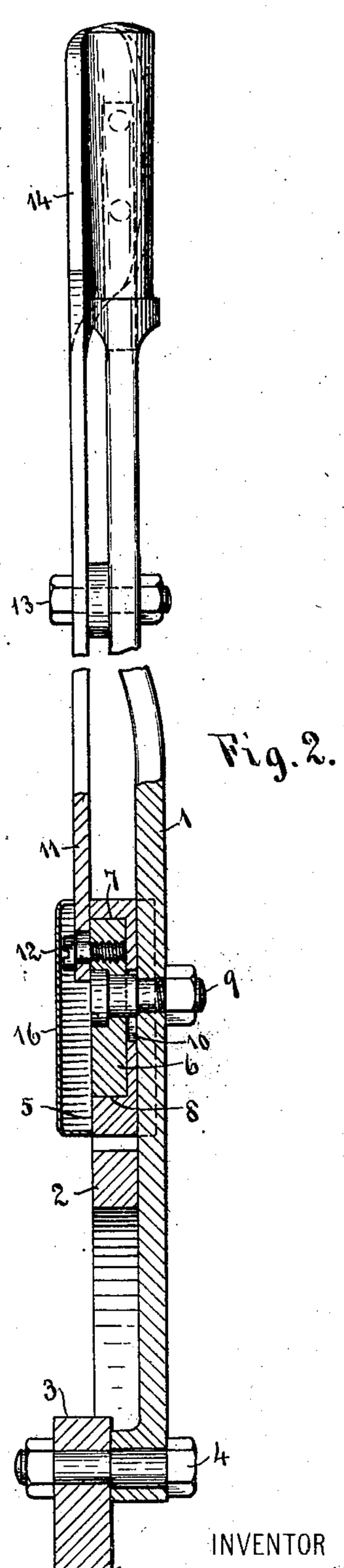


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM HONSCHEID, OF ELMIRA, NEW YORK.

## LOCK FOR LEVERS, &c.

No. 889,610. Specification of Letters Patent. Patented June 2, 1908.

Application filed September 27, 1907. Serial No. 394,885.

*To all whom it may concern:*

Be it known that I, WILLIAM HONSCHEID, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Locks for Levers, &c., of which the following is a specification.

This invention relates to improvements in the locking devices by which adjusting levers are fastened in their various positions, and has to do more particularly with the latches for locking the levers by which the throttle valves and reversing gear of locomotives are adjusted. My improved lock, however, may also be used in connection with other machinery and appliances.

The object of my present improvement is to provide a simple and effective locking device, whereby it will be rendered impossible for the lever to be jarred out of adjustment or moved from the position in which it has been set, without first releasing the lock, and to provide a lock of this nature, which may be readily substituted for the old forms of locks without necessitating a change in the levers.

I attain my objects by means of the arrangement of the several parts of the device as illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a reversing or throttle lever embodying my improvements; and Fig. 2, a transverse section thereof.

Like numerals designate like parts in the two views.

The lever 1, as herein shown, is pivoted at 4 to operate in conjunction with the toothed segment 2, said lever and segment being mounted upon any suitable support 3. The lock consists of a latch block 5, grooved at the back to slide upon the lever and provided with teeth at one end to engage the segment. The latch-block is chambered or recessed to receive the cam 6, which is pivoted upon the pin 9, bolted to the lever 1; the latch-block being slotted at 10, (see Fig. 2,) to permit of its longitudinal motion on the lever. The cam 6, as herein shown, engages an eccentric surface 7, which forms one wall of the recess in the latch-block, so that, when the cam is turned to the left in Fig. 1, the latch-bar will be thrown away from the segment to release the lever. To throw the latch-block into engagement with the segment, the cam is provided with an eccentric surface which engages the incline 8 on the latch-block; and I may provide the cam where it rides upon said incline with a hardened wear-plate 17. The cam, where it engages the incline, is so shaped that the point of engagement will be thrown past the center of the lever in throwing the latch-bar into locking position, thereby causing the outward push upon the latch-block to act upon the cam in a direction which will tend to turn it further to the right, thereby effectually preventing the release of the latch.

To rotate the cam to release or set the latch-block, I provide, upon the main lever 1, some suitable form of latch-lever, and couple said lever to the cam in such a manner as to rotate it in one direction or the other, as desired; said lever being preferably held in locking position by a spring of sufficient stiffness. As herein illustrated, I have provided a straight lever 11, one end of which is coupled to the cam by means of the screw pin 12, the latch-lever being pivoted to the main lever at 13, and being provided with a handhold at 14, opposite the handle of the main lever. A spring 15 riveted inside of said handhold and bearing against the lever acts to throw the cam to the right or in to locking position.

In operating the latch to release the lever, the outer end of the latch-lever is drawn toward the handle of the main lever, thereby rotating the cam to the left and pushing the latch-block outward. The main lever is then free to move in either direction, and, when set in proper adjustment, the outer end of the latch-lever will be released, thereby permitting the spring to act upon said lever to throw the cam to the right; the cam then acting upon the incline 8 to throw the latch-block into engagement with the segment.

In applying the latch-block, as so made, to a lever, all that is required is to fit the groove on the back of the block to the lever, and to drill the lever to receive the pin 9. When in place, the latch may be inclosed by a cover, (as indicated at 16 in Fig. 2,) to conceal and protect the operating parts.

While I have shown a curved bearing surface at 7, and an inclined surface at 8, for the cam to act upon, I do not confine myself to these forms for the bearing surfaces; and it will also be understood that means for operating the cam, other than the specific form of lever herein described, may be employed.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination, with a lever and a serrated segment, of a latch-block adapted to slide upon the lever and provided with one or more teeth to engage corresponding teeth on the segment, a cam pivotally mounted on the lever and adapted to move the latch-block into and out of engagement with the segment, and means on the lever for imparting a partial rotation back and forth to the cam to actuate the latch, the point of actuating contact between the cam and latch-block being thrown past centers, when the latch is in engaging position, to lock the latch in said position.

2. The combination, with a lever and a serrated segment, of a recessed latch-block adapted to slide upon the lever and provided with one or more teeth to engage corresponding teeth on the segment, a cam in said recess pivotally mounted upon a pin which projects from the lever through a slot in the latch-block, said cam and recess having engaging surfaces whereby the back and forth motions of the cam will move the latch-block into and out of engagement with the segment, and whereby the latch-block will be locked by the cam in its engaging position, and means on the lever for actuating the cam.

In testimony whereof I have affixed my signature, in presence of two witnesses.

WM. HONSCHEID.

Witnesses:
M. E. VERBECK,
R. A. SMITH.