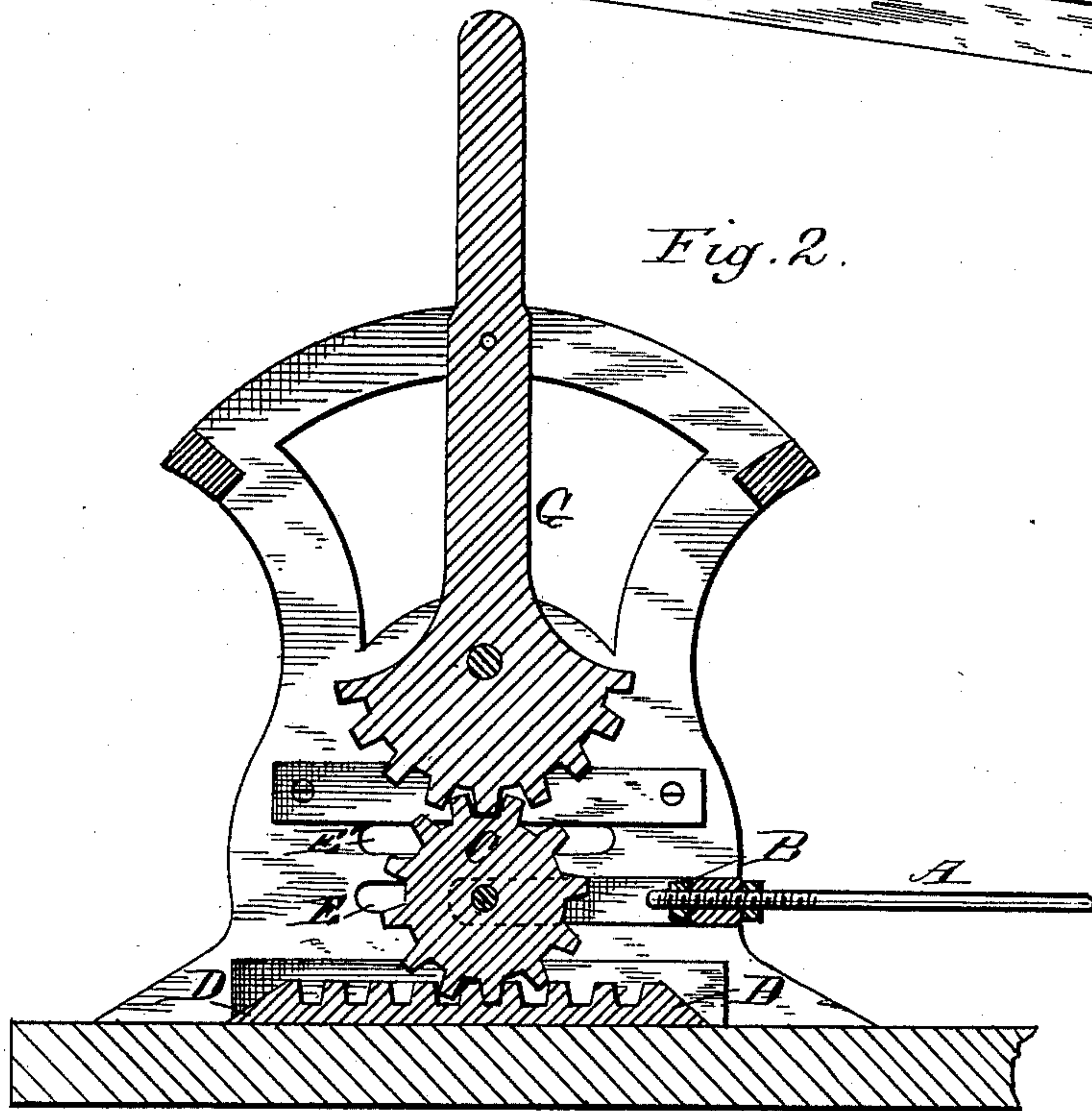
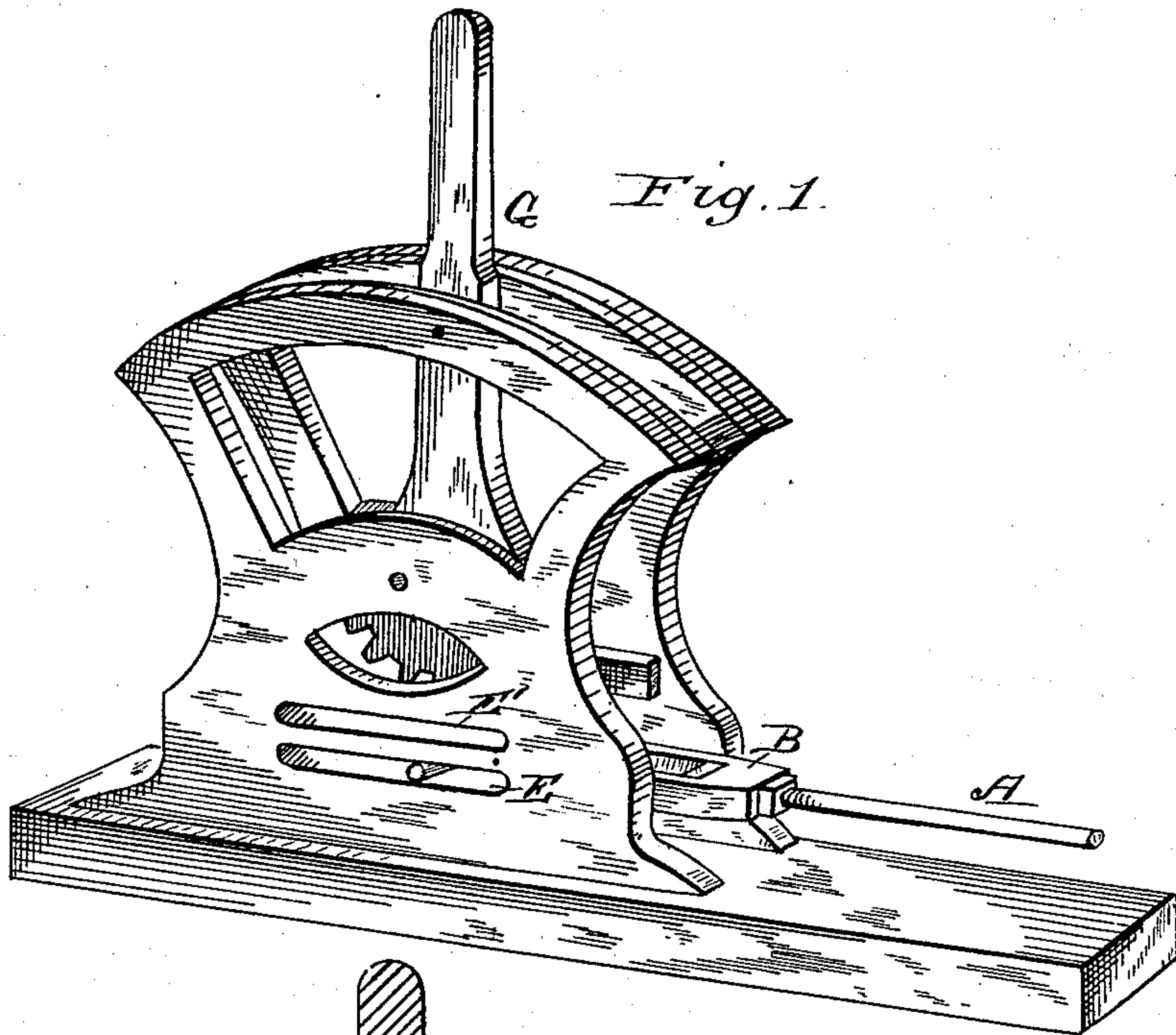


(No Model.)

A. GRINDER.
RAILWAY SWITCH STAND.

No. 285,356.

Patented Sept. 18, 1883.



Witnesses

W. Johnson.
L. C. Hills.

By

Alonzo Grinder
his Attorney

UNITED STATES PATENT OFFICE.

ALONZO GRINDER, OF ALTOONA, PENNSYLVANIA.

RAILWAY-SWITCH STAND.

SPECIFICATION forming part of Letters Patent No. 285,356, dated September 18, 1883.

Application filed May 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALONZO GRINDER, a citizen of the United States of America, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Switch Stands; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention consists in certain new and useful improvements in railway-switch stands; and it has for its object to provide a means whereby the rails of the railroad-track can be adjusted readily with a small amount of power, and when adjusted will be held securely in position; and to this end it consists in providing a switch-stand at its lower portion with a ratchet-bar, in which meshes a pinion which travels in a suitable slot provided for the shaft of the same in the switch-stand, which pinion carries the operating-rod attached to the rails and meshes into a lever provided with a segmental gear.

It also consists in the construction and arrangement of the parts, as will be hereinafter more fully set forth, and pointed out in the claims.

In the annexed drawings, which illustrate my invention, Figure 1 is a perspective view, showing the parts in position and the construction of the switch-stand. Fig. 2 is a sectional view.

A represents the connecting-rod, which is attached to the rails to be operated. This rod is screw-threaded at its inner end, and is provided with adjusting-nuts, which embrace the end of a bifurcated connecting-plate, B, which overlaps the pinion C, and is pivoted to its central shaft. The lower portion of the switch-stand is provided with a rack-bar, D, into which the aforesaid pinion meshes, and on its side with suitable longitudinal slots E, as shown, through which passes the bearing or shaft of the pinion C. Immediately above this pinion C is pivoted a lever G, which is provided on its lower end with gear-teeth, which are arranged on the segment of a circle, and the upper part of the switch-stand is provided

with means for holding this lever in place, as shown. Instead of this lever with segmental gear-teeth, I may use a cogged wheel, which may be provided with a suitable crank for turning the same. This construction is desirable in some instances where but a small amount of space can be had.

The switch-stand, in which the parts are confined, is of ordinary construction, with the exception of the parts hereinbefore referred to.

It will be noticed in operating this invention that I provide a rolling bearing or fulcrum for the center pinion, which carries the switch-operating rod, and by this means I gain a large amount of power. The switch-stand is also provided with similar longitudinal slots, E', located above the slot E, which may be employed in case the pinion C should be broken, in which case said pinion would be removed and the lever dropped so as to intermesh with the rack-bar D at the base of the switch-stand, the bifurcated plate or connecting means B being secured to the lever G by a suitable pivot, which will pass through the slots E', perforation in the lever G, and ends of the arms on the plate B. By this arrangement the operating-rod A can be moved to and fro, the bearing of the lever traversing the longitudinal slots.

To those skilled in the art the advantages of this invention will be evident, and its power is so great that switches may be operated by means of the same even when a loaded train rests upon the switch, and the parts being simple are not liable to get out of order.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A switch-stand provided with a rack-bar at its base, a pivoted operating-lever with segmental gear, and an intermediate pinion having a transverse bearing secured in longitudinal slots in the switch-stand, and an operating-rod attached thereto, the parts being organized substantially as shown.

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

ALONZO GRINDER.

Witnesses:

S. E. HEDDING,
CLARENCE SIMPSON.