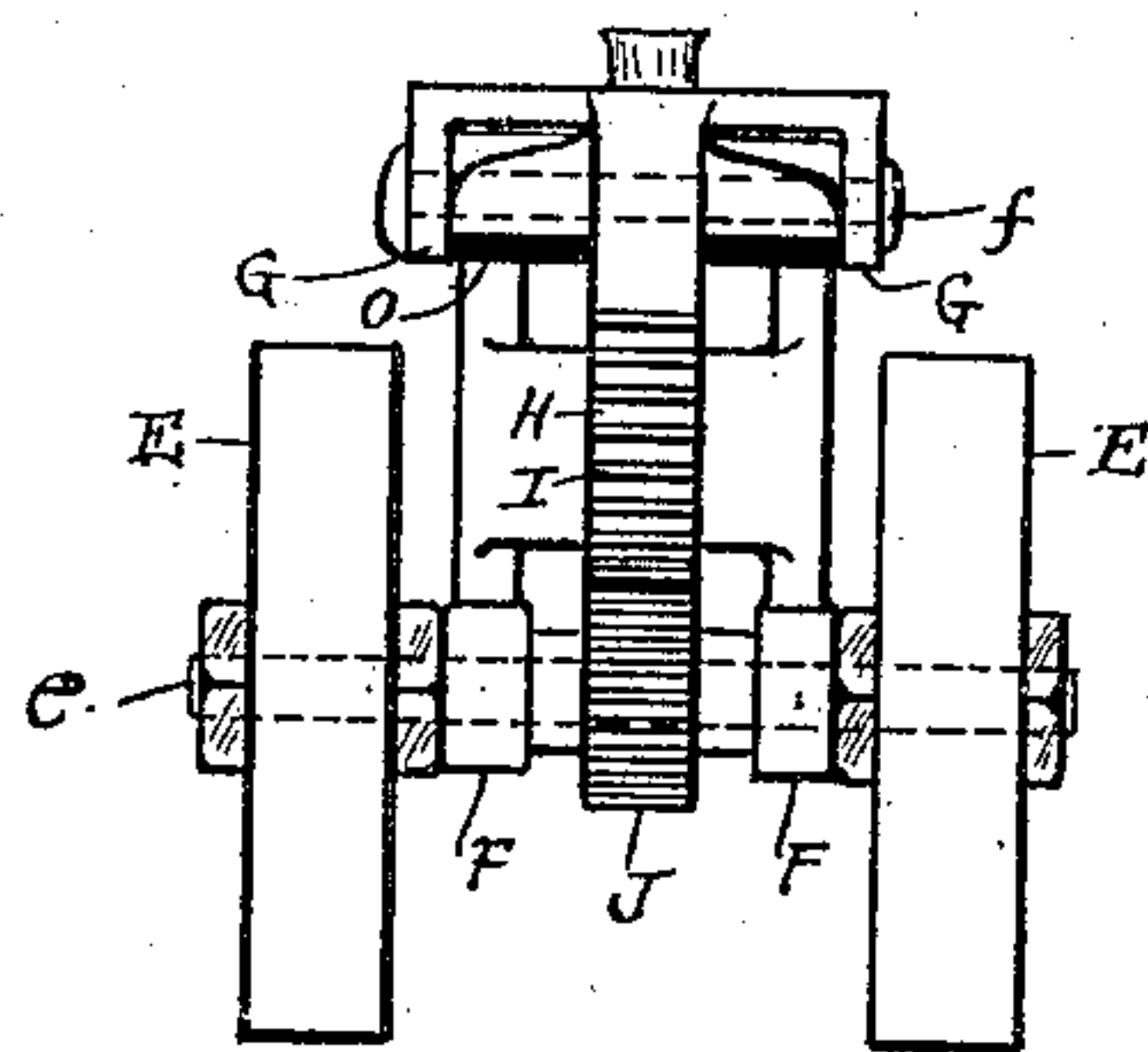
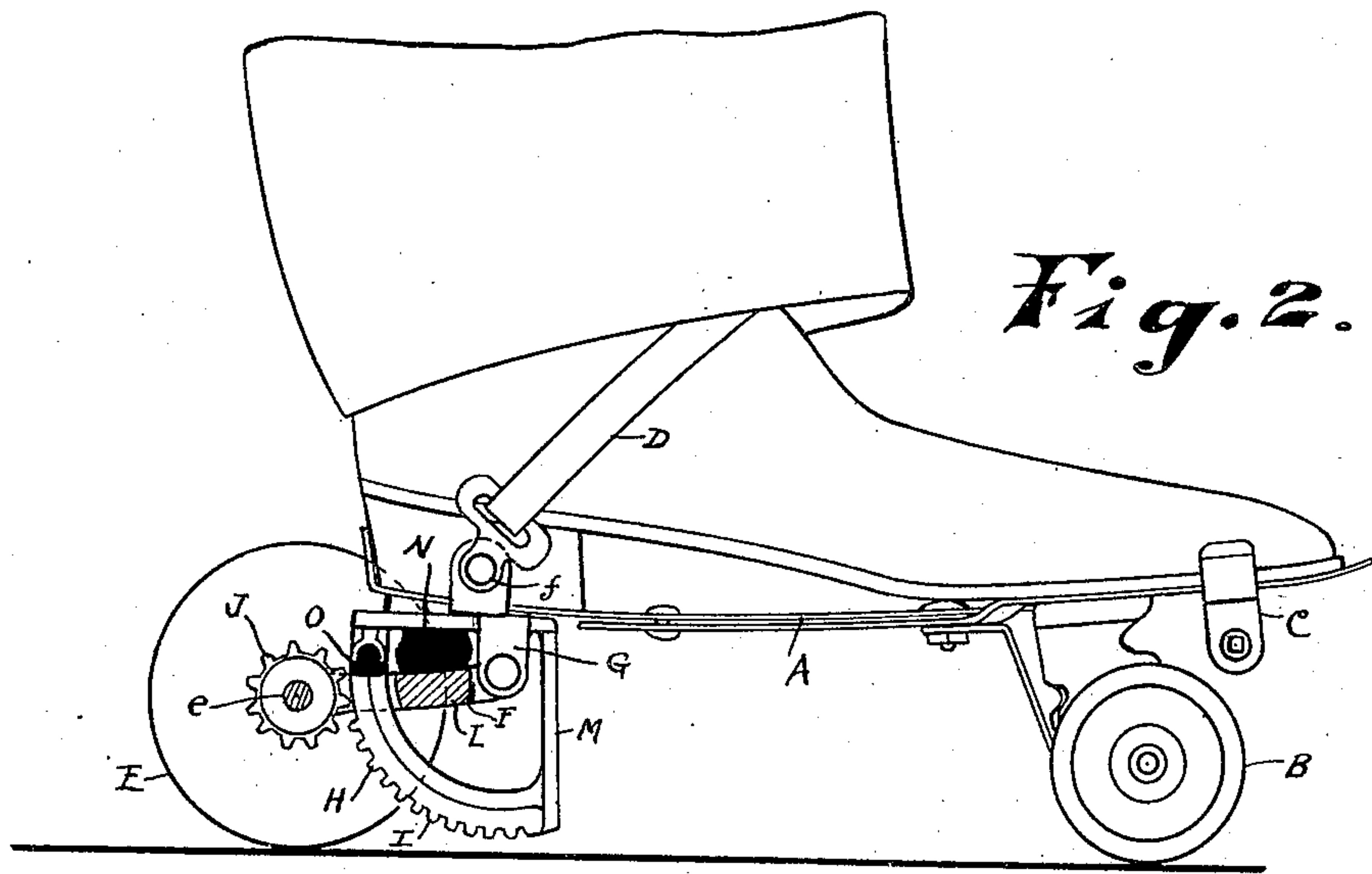
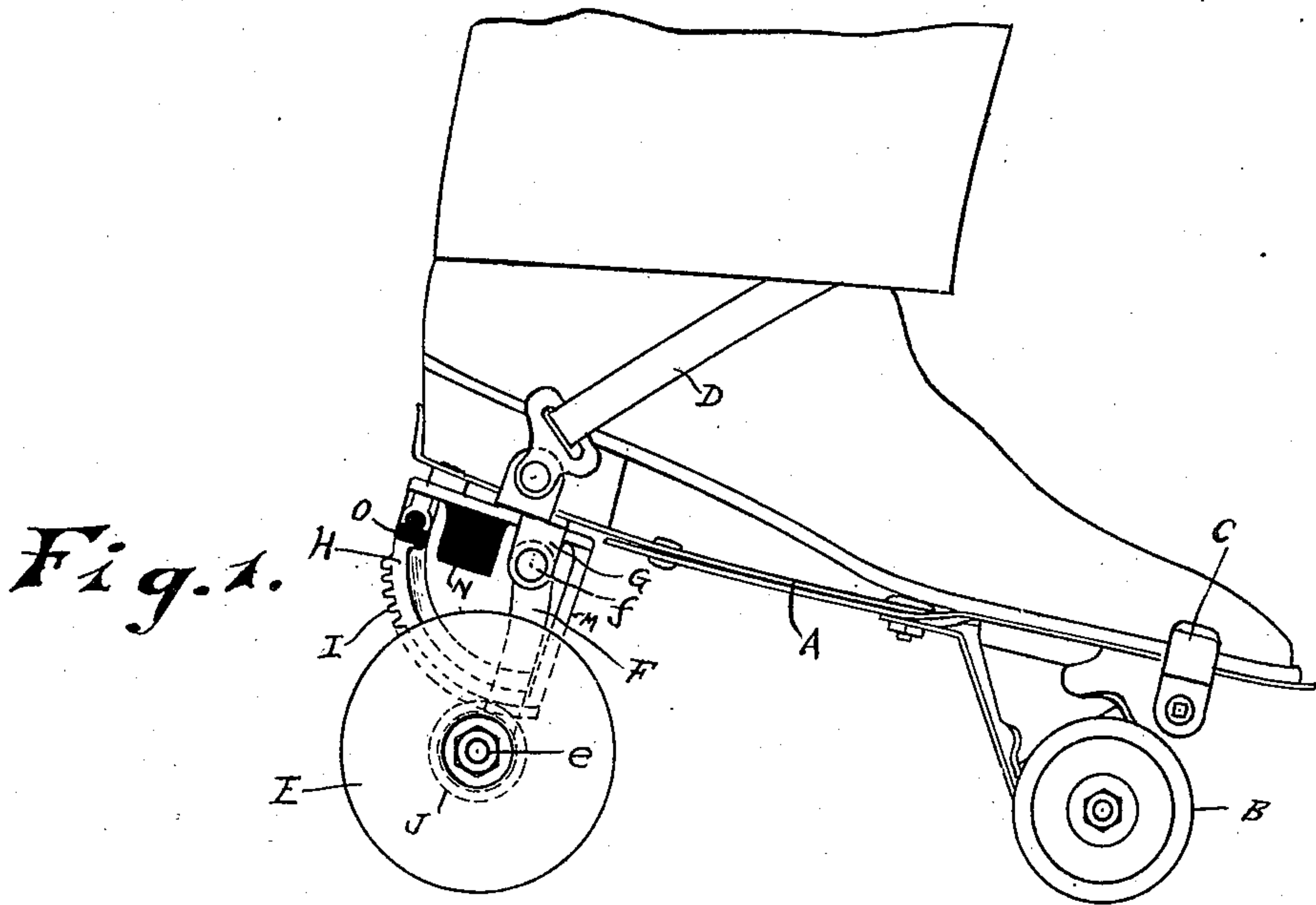


C. O. WELLNITZ.  
 ROLLER SKATE.  
 APPLICATION FILED MAR. 9, 1908.

903,525.

Patented Nov. 10, 1908.



WITNESSES  
 O. R. Erwin  
 N. F. Dopke.

INVENTOR  
 Charles O. Wellnitz  
 By Erwin & Wheeler  
 ATTORNEYS



# UNITED STATES PATENT OFFICE.

CHARLES O. WELLNITZ, OF MILWAUKEE, WISCONSIN.

## ROLLER-SKATE.

No. 903,525.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed March 9, 1908. Serial No. 419,855.

*To all whom it may concern:*

Be it known that I, CHARLES O. WELLNITZ, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Roller-Skates, of which the following is a specification.

My invention relates to improvements in that class of roller skates wherein the weight of the user is utilized to assist in propulsion.

The object of my invention is to provide a form of construction in which the power will be transmitted to the driving rollers through a segment and pinion, the teeth of which become separated on the completion of the driving stroke; also to provide means in which the application of power derived from the weight of the rider or user becomes more effective toward the end of the stroke. Also to provide means for relieving the intermeshing gear teeth from binding frictional pressure.

In the following description reference is had to the accompanying drawings in which,—

Figure 1 is a side view of my invention as it appears in use, with the heel portion in raised position. Fig. 2 is a similar view, part in section, and showing the heel portion depressed as it appears on completion of the stroke, with the gear teeth of the segment disengaged from those of the pinion. Fig. 3 is a rear elevation.

Like parts are identified by the same reference characters throughout the several views.

The foot plate A, forward rollers B, and clamping members C and D may be of any ordinary construction. The rear rollers E are relatively larger in diameter and are connected with the heel portion of the foot plate A by means of yoke arms F pivotally secured at *f* to depending ears G connected with the foot plate, whereby the wheels E and the rear axle *e* are permitted to swing rearwardly about the pivot pin *f* as the center. The heel portion of the foot plate is provided with a segmental bracket H, the curved lower surface of which is provided with gear teeth I which are arranged to mesh loosely with the teeth of a pinion J, rigidly mounted on the roller shaft *e*. The yoke arms F are connected by a cross bar L which extends over the segmental bracket H and is adapted to contact with the vertical member M which connects the lower end of said bracket with the foot plate and which serves as a stop to

limit the forward swinging movement of the yoke arms F and rollers E. The backward swinging movement of these arms is limited by buffer cushions N and O.

When the rollers E are in their forward position, the heel of the skate being raised as shown in Fig. 1, the weight of the rider will be almost directly supported upon the axle *e* there being little tendency to a forward movement from this position, although the stop L is arranged to contact with the vertical bar M in such a manner as to prevent the rollers E from swinging forwardly to a vertical line of centers through the pivotal pin *f* and axle *e*. As the skate moves forwardly, the power derived from the weight of the user becomes more effective, both by reason of the weight being shifted from the toe to the heel, and also through the increased effectiveness of the segment as the teeth thereof bear increasingly upon the side of the pinion J. On completion of the stroke, the teeth I pass out of mesh with the teeth of the pinion J, thus permitting the skate to run free, and immediately thereafter the yoke arms F come in contact with the buffers N and O. The parts will remain in this position so long as the weight of the user is applied to the heel portion of the skate but as soon as the heel is lifted, the rollers E swing downwardly and forwardly by gravity, until the stop L again contacts with bar M, when the parts will have again returned to the position illustrated in Fig. 1. The yoke arms F not only connect the axle *e* and the rollers E with the foot plate of the skate, but these yoke arms also serve as spacers to keep the teeth of the pinion out of binding frictional contact with the teeth of the segment thus greatly reducing the friction which would otherwise result.

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

1. The combination with the heel portion of the foot plate of a roller skate, a swinging yoke pivotally secured thereto, a roller supporting shaft journaled in said yoke, a pinion, and a set of rollers, each fast on the shaft, a segment rigidly secured to the heel portion of the skate and extending downwardly and forwardly in an arc concentric with that of pinion movement to a point substantially underneath the pivotal connection of the yoke.

2. The combination with the heel portion of the foot plate of a roller skate, a swinging



yoke pivotally secured thereto, a roller supporting shaft journaled in said yoke, a pinion, and a set of rollers, each fast on the shaft, a segment rigidly secured to the heel portion of the skate and extending downwardly and forwardly in an arc concentric with that of pinion movement to a point substantially underneath the pivotal connection of the yoke, and a vertically extending arm connecting the lower end of the segment with the heel portion of the skate in advance of said pivot.

3. The combination with the heel portion of a roller skate, of a set of rear rollers, swinging yoke connection between said rollers and the heel portion of the skate, a pinion connected with said rollers, and a segment fixedly connected with the heel portion of the skate, and arranged to mesh with said pinion, together with stops arranged to limit the swinging movement of said yoke connection, one of said stops comprising a downwardly extending bracket member connected with the lower end of said segment.

4. The combination with the heel portion of a roller skate, of a set of rear rollers, swinging yoke connection between said rollers and the heel portion of the skate, a pinion connected with said rollers and a segment fixedly connected with the heel portion of the skate and arranged to mesh with said pinion, said segment being curved in the arc of

pinion movement and said yoke being arranged to permit a relative upward movement of the pinion beyond the teeth on the segment, whereby the segment passes out of engagement with the pinion on completion of its downward stroke, and a buffer cushion interposed between the yoke and the heel portion of the skate in a position to receive the yoke pressure when the pinion is out of mesh with the segment.

5. The combination with the heel portion of the foot plate of a roller skate, a swinging yoke pivotally secured thereto, a roller supporting shaft journaled in said yoke, a pinion, and a set of rollers, each fast on the shaft, a segment rigidly secured to the heel portion of the skate and extending downwardly and forwardly in an arc concentric with that of pinion movement to a point substantially underneath the pivotal connection of the yoke, said segment being connected at both ends with the foot plate of the skate and said yoke being connected with said plate between said points of connection, with the segment extending between the arms of the yoke.

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

CHARLES O. WELLNITZ.

Witnesses:

O. R. ERWIN,

LEVERETT C. WHEELER.