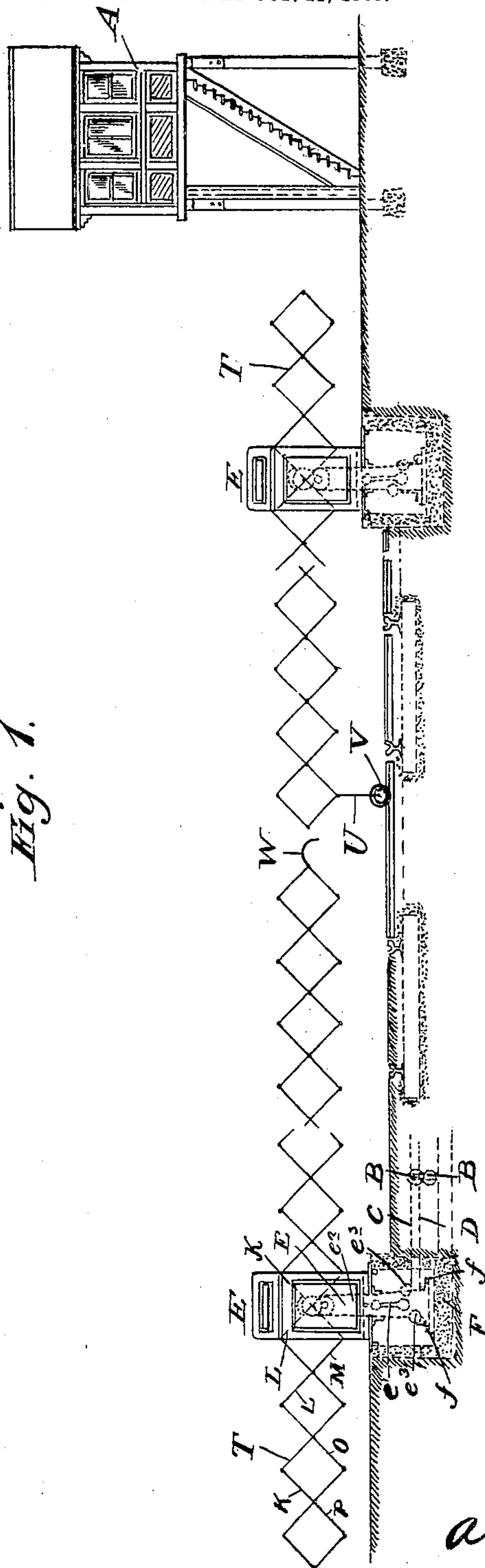


No. 814,330.

PATENTED MAR. 6, 1906.

A. SPIES.  
RAILWAY GATE.  
APPLICATION FILED OCT. 21, 1905.

3 SHEETS—SHEET 1.



*Fig. 1.*

Witnesses  
Frank L. Ourand  
L. E. Barkley.

Inventor  
Albert Spies  
by Francis Appelman  
Attorney

No. 814,330.

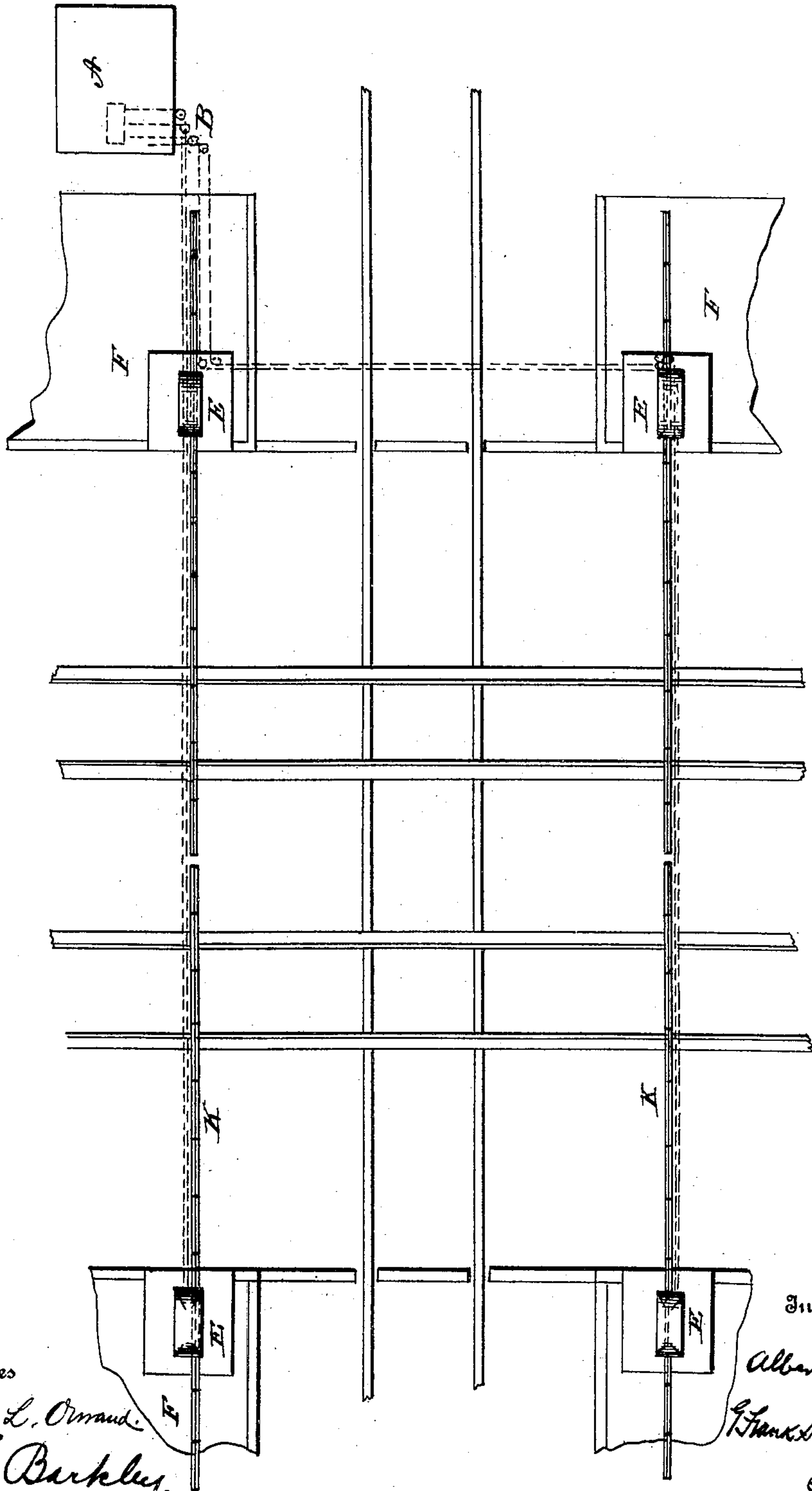
PATENTED MAR. 6, 1906.

A. SPIES.  
RAILWAY GATE.

APPLICATION FILED OCT. 21, 1905.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses  
Frank L. Ormand.  
L. E. Barkley.

Inventor  
Albert Spies  
Frank S. Appelman  
Attorney

No. 814,330.

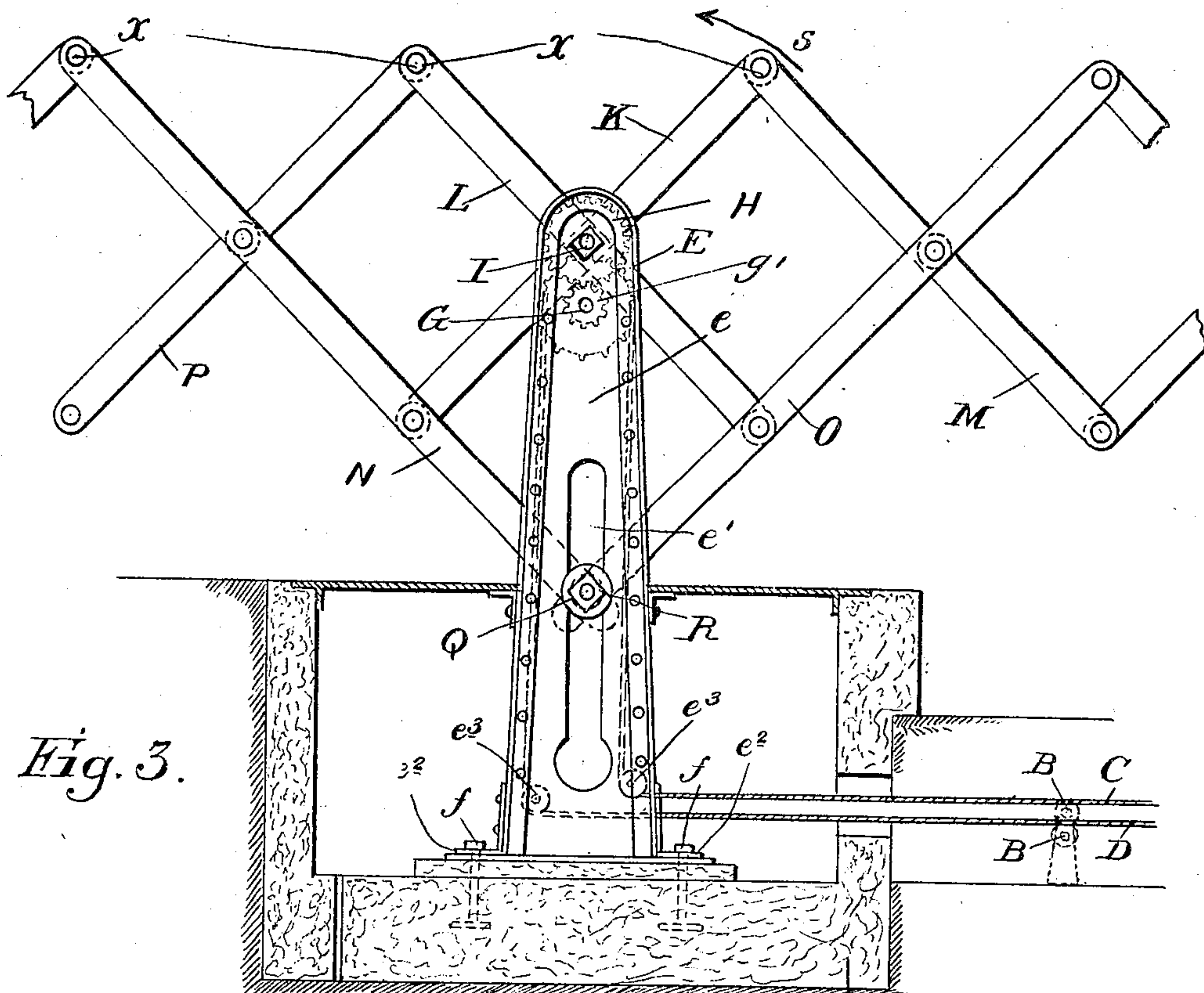
## A. SPIES.

PATENTED MAR. 6, 1906.

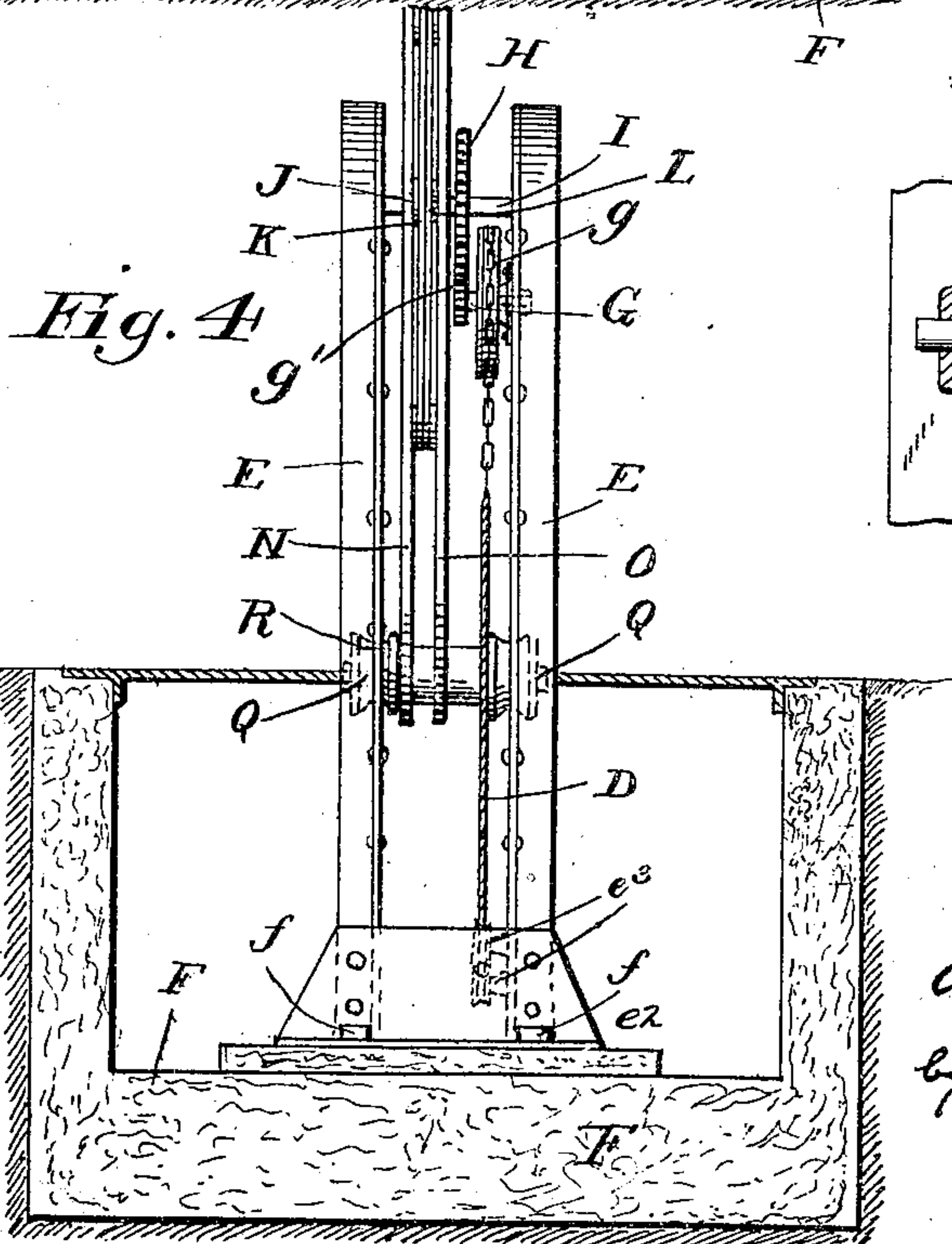
RAILWAY GATE.

APPLICATION FILED OCT. 21, 1906.

3 SHEETS—SHEET 3.



*Fig. 3.*



*Fig. 4*

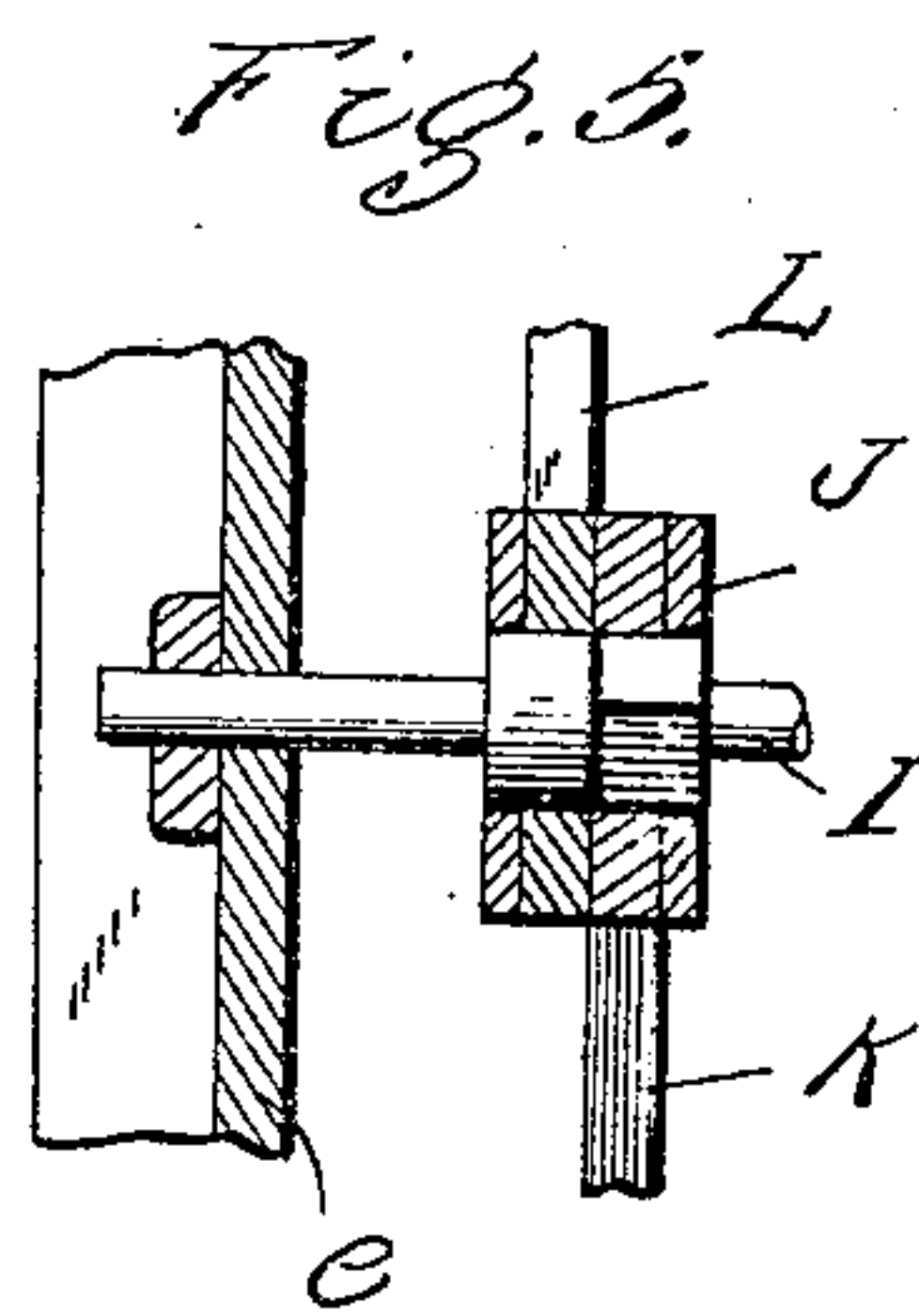


Fig. 5.

Witnesses  
F. L. Orvand.  
L. E. Backley.

Inventor  
Albert Spies  
by Frank S. Appleman  
Attorney



# UNITED STATES PATENT OFFICE.

ALBERT SPIES, OF LOUISVILLE, KENTUCKY.

## RAILWAY-GATE.

No. 814,330.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed October 21, 1905. Serial No. 283,764.

*To all whom it may concern:*

Be it known that I, ALBERT SPIES, a citizen of the United States of America, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Railway-Gates, of which the following is a specification.

This invention relates to railway-gates, and particularly to a device for placing obstructions across roads crossing railways.

The invention has for its object the provision of novel means for extending and withdrawing the gate, the said gate moving in a plane parallel with the road-bed or practically so.

Furthermore, an object of this invention is to provide novel means to permit the manipulation of the gate or gates at a point remote from the location of the gates, means being particularly provided for permitting the manipulation of the gates from a tower such as are employed for signal-towers along railways.

Finally, an object of this invention is to provide a device of the character described possessing advantages in points of efficiency, simplicity, and durability, proving at the same time comparatively inexpensive to produce and maintain.

With the foregoing and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters denote corresponding parts in the several views, in which—

Figure 1 is a view in elevation of the gate, shown in extended position across a road. Fig. 2 is a top plan view. Fig. 3 is an enlarged detail view showing a part of the gate and its operating mechanism. Fig. 4 is an end view thereof. Fig. 5 is a detail view showing the connection between the operating-shaft and the crossed levers.

In the drawings, A indicates a tower or house from which the gates are manipulated, and B B B denote a series of pulleys over which the flexible connections C D operate to actuate the gate-controlling mechanism.

E denotes a stand comprising two U-shaped posts having central webs  $e$ , which are provided with longitudinal slots  $e'$ , extending from a point approximately midway their

length to a point near their bases. The posts are anchored in the concrete foundation F through the medium of the bolts  $f$ , passing through the angular feet  $e^2$  of the posts and embedded in the concrete foundation, as indicated. The posts are provided with pulleys  $e^3$ , over which the flexible connections C D are run. The flexible connections are extended through a conduit formed under the road-bed and are connected in any suitable manner to operate mechanism in the two stands. Each stand is provided with a stud G, which is secured to the web of one of the posts, and said stud has a sprocket-wheel  $g$  mounted on it, which communicates motion to the pinion  $g'$ , the said pinion being in mesh with the gear-wheel H, keyed on the shaft I, which shaft is mounted in bearings in the webs of the posts. The shaft I has a bushing J, a portion of which is angular in cross-section and another portion of which is round in cross-section, the said sections of the bushing being designed for the purpose of receiving the crossed levers K and L of the gate.

It is immaterial which of the bars K L is mounted on the angular portion of the bushing, the only requirement being that the aperture, in one shall be square or rectangular to fit on the angular bushing and that the other be provided with a round hole to fit the round bushing. It follows that the one that is fitted to the angular bushing will rotate or partially rotate with the rotation of the shaft, while the other will move freely on the shaft. For the purpose of describing the operation more in detail we will assume that the bar K is the one for the square aperture fitted on the angular bushing. It follows that with the rotation of the shaft I the said bar K would be moved from the position shown in Fig. 3 to a position alining with the post.

The outer end of the bar K is pivotally connected to another bar, while the inner end of the bar K is pivoted to the bar N. The bar L is pivoted at one end to a bar O, while the outer end is pivoted to a bar P. The bars N and O are connected to a shaft Q, on the ends of which grooved antifriction-rolls R are mounted, which antifriction-rolls travel in the slots  $e'$  and embrace the edges of the web around the slots.

It follows that with the manipulation of the flexible connections C and D the wheel-gear  $g$  communicates motion to the gear-wheel H through the medium of the pinion  $g'$ . The member K, being mounted to take mo-



tion from the shaft I, swings in the arc of a circle and communicates motion to the members M and N and then in turn communicates motion to the members O and L of the lazy-tongs. Movement of the member K in the direction of the arrow S results in causing the sections of the gate to fold or move toward the stand, while a movement of the member K in an opposite direction causes the gate to extend across the roadway. As shown in Fig. 1, there is a stand on each side of the railway, so that the gate-sections meet approximately centrally of the roadway and obstruct the passage of teams or the like thereover. It will be observed also that there are extensions T, which project over the sidewalk.

In order to support the outer ends of the gate as they are moved, I may provide a standard U, which is supported by a wheel V, said standards being secured to the outer gate-section. While I have shown this supporting means on but one section of Fig. 1, it follows that it may be appropriately applied to the other section as well. I also provide a hook or extension U, on which a lantern or signal may be hung to be exposed when the gates are closed.

The pivotal pins  $x$  between the bars of the gate are provided with brass bushings in order to prevent corrosion or other change which would cause undue friction.

The antifriction-rolls Q are preferably mounted on ball-bearings in order to increase the durability of the construction; but as the ball-bearing construction is such an old expedient in order to prevent wear it is thought that it need not be described in detail. It is sufficient to say that any of the well-known ball-bearing constructions could be appropriately applied to this part of the invention.

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

1. In a railway-gate, extensible sections comprising crossed levers, pivotally connected one to the other, and means whereby the

rotation of one of the pivots of each section projects the section.

2. In a railway-gate, extensible sections comprising crossed levers, pivotally connected one to the other, and means whereby the rotation of one of the pivots of each section projects and retracts the section.

3. In a railway-gate, a suitable post, a shaft rotatable thereon, means for rotating the shaft, a gate comprising a series of crossed levers pivoted one to the other, one of the levers being mounted on the shaft to rotate therewith.

4. In a railway-gate a post, a shaft mounted thereon, gearing for rotating the shaft, a gate comprising a series of crossed levers pivoted one to the other, two of the levers at their intersection being mounted on the shaft, one of said levers rotating with the shaft, guiding-wheels traveling longitudinally of the post, and means for connecting certain levers of the gate to the wheels.

5. In a railway-gate, a post, a shaft mounted thereon, gearing for rotating the shaft, a gate comprising a series of crossed levers pivoted one to the other, two of said levers at their intersection being mounted on the shaft one of said levers rotating with the shaft.

6. In a railway-gate, a suitable post, guiding-wheels traveling longitudinally of the post, shaft connecting the guide-wheels, gate-bars having their ends connected to the shaft, an operating-shaft mounted on the post, gearing for communicating motion to this shaft, flexible connections for operating the gearing, idle rollers over which the flexible connections operate, gate-bars mounted on the shaft, one of which rotates with the shaft, and communicates motion to the remaining bars.

In testimony whereof I affix my signature, in the presence of two witnesses, this 17th day of October, 1905.

ALBERT SPIES.

Witnesses:

C. R. HARRELL,  
WILLIAM KRIEGER.