

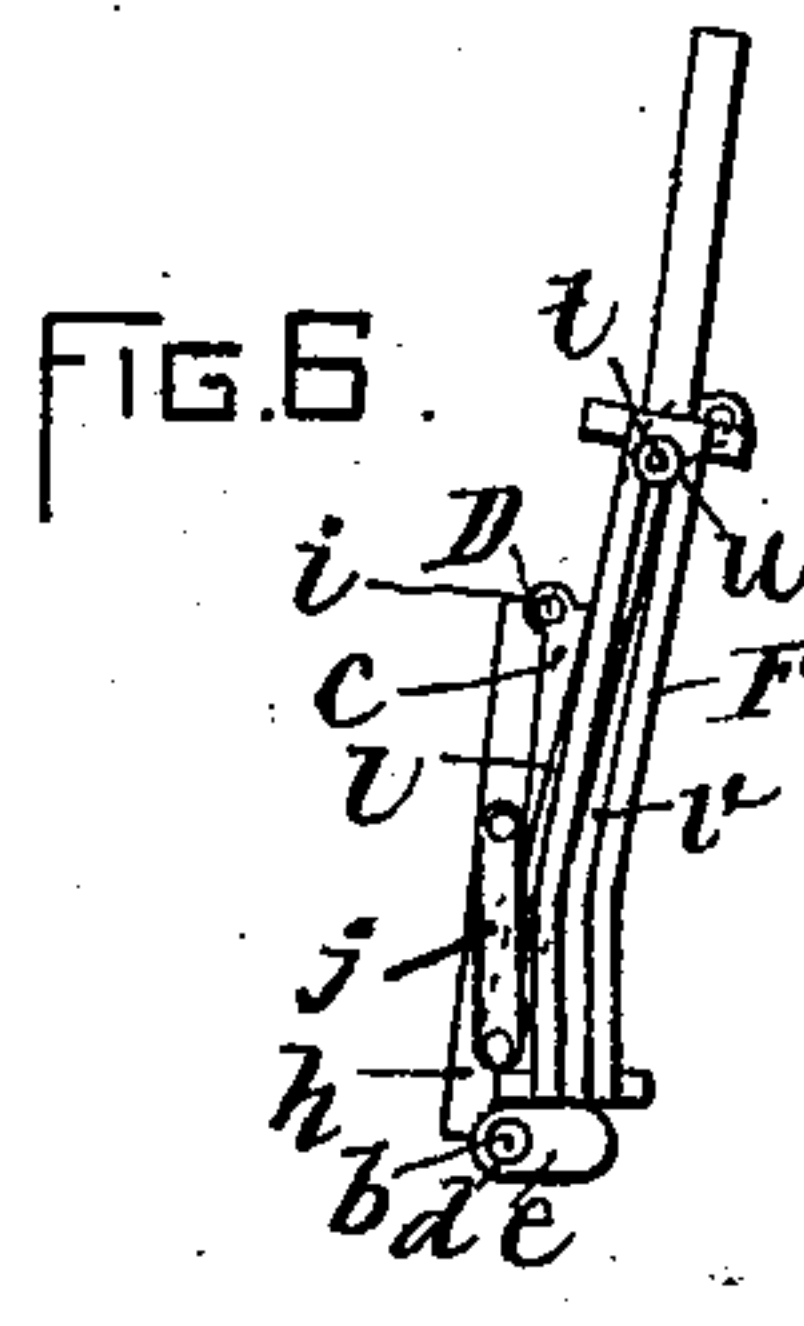
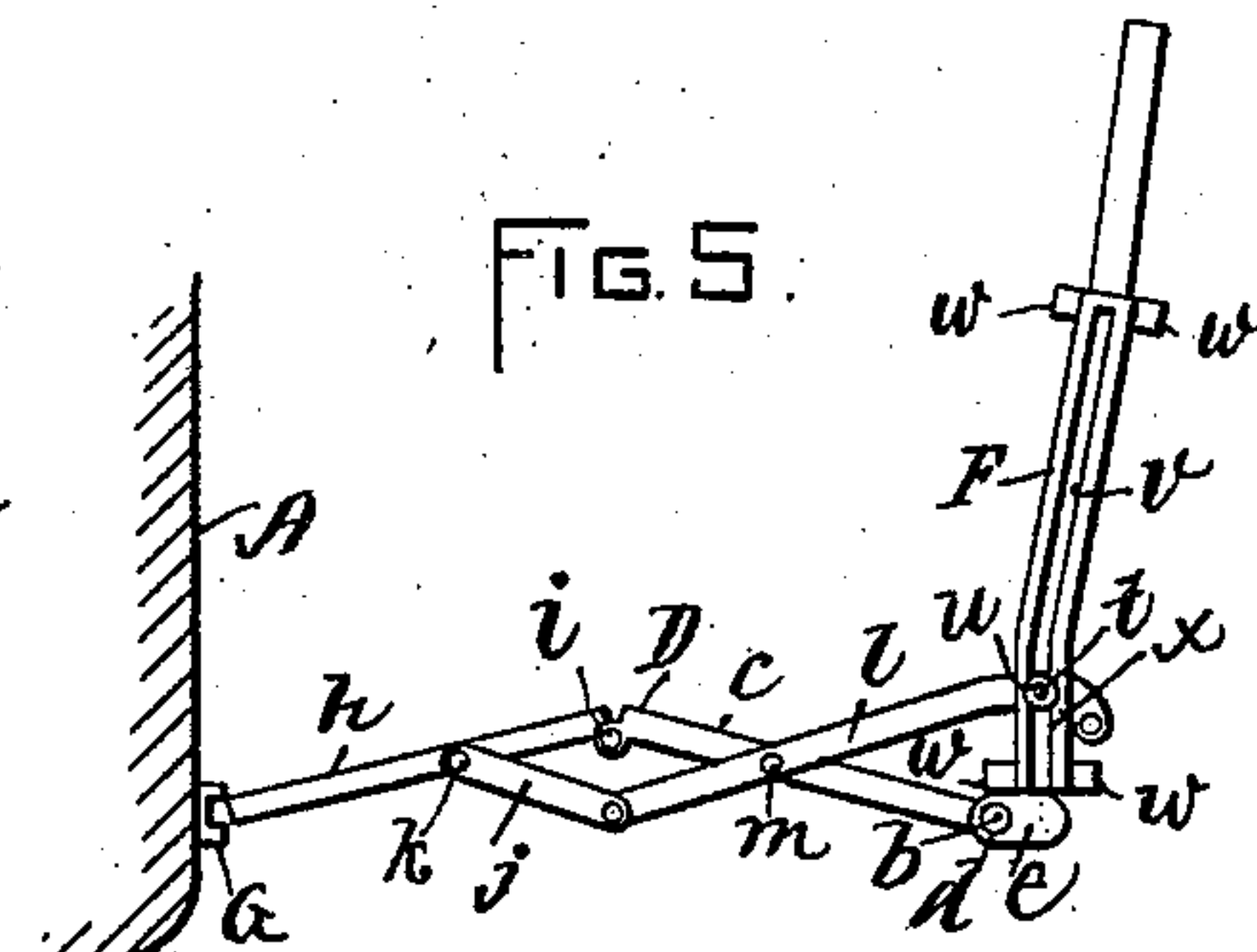
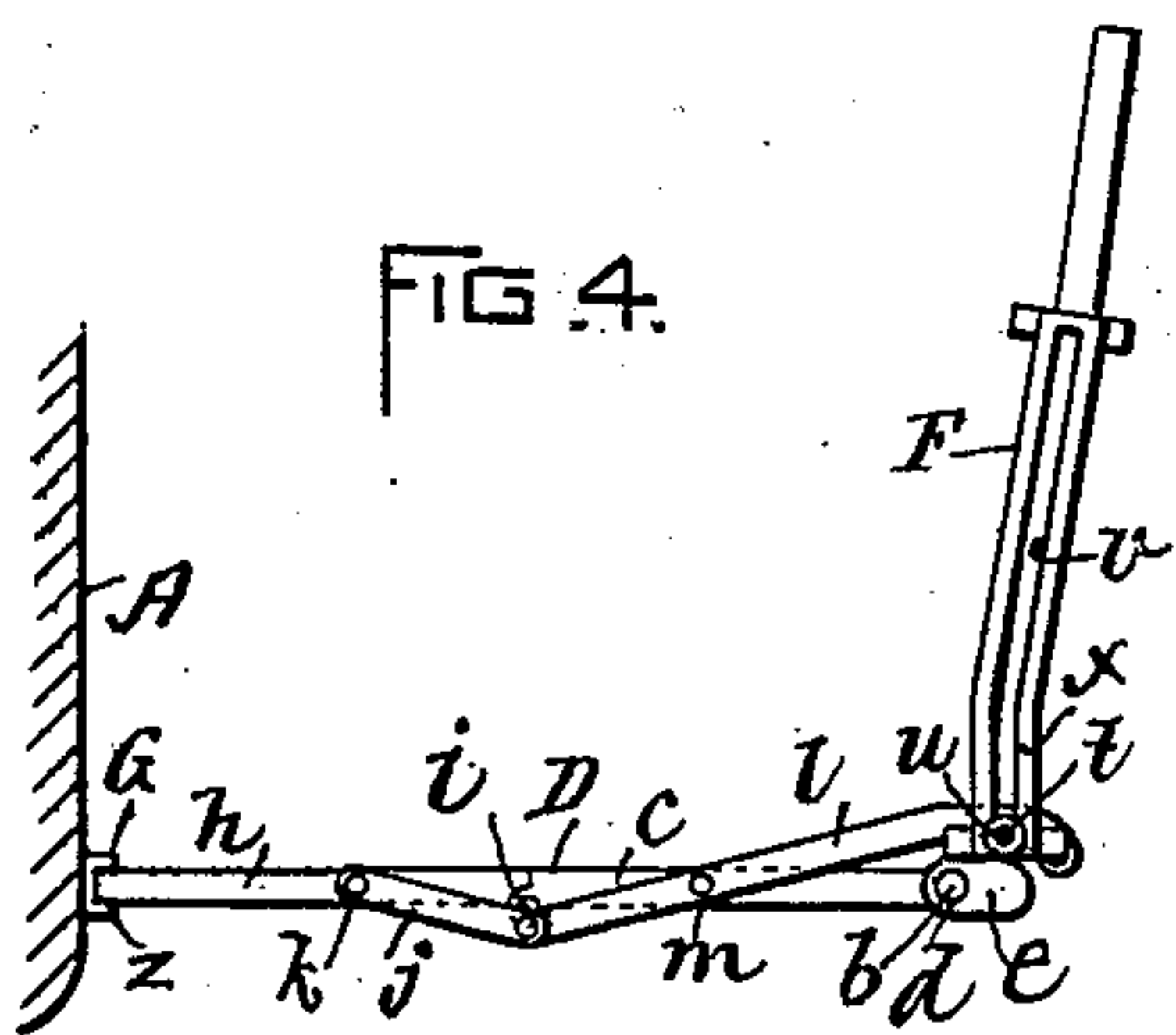
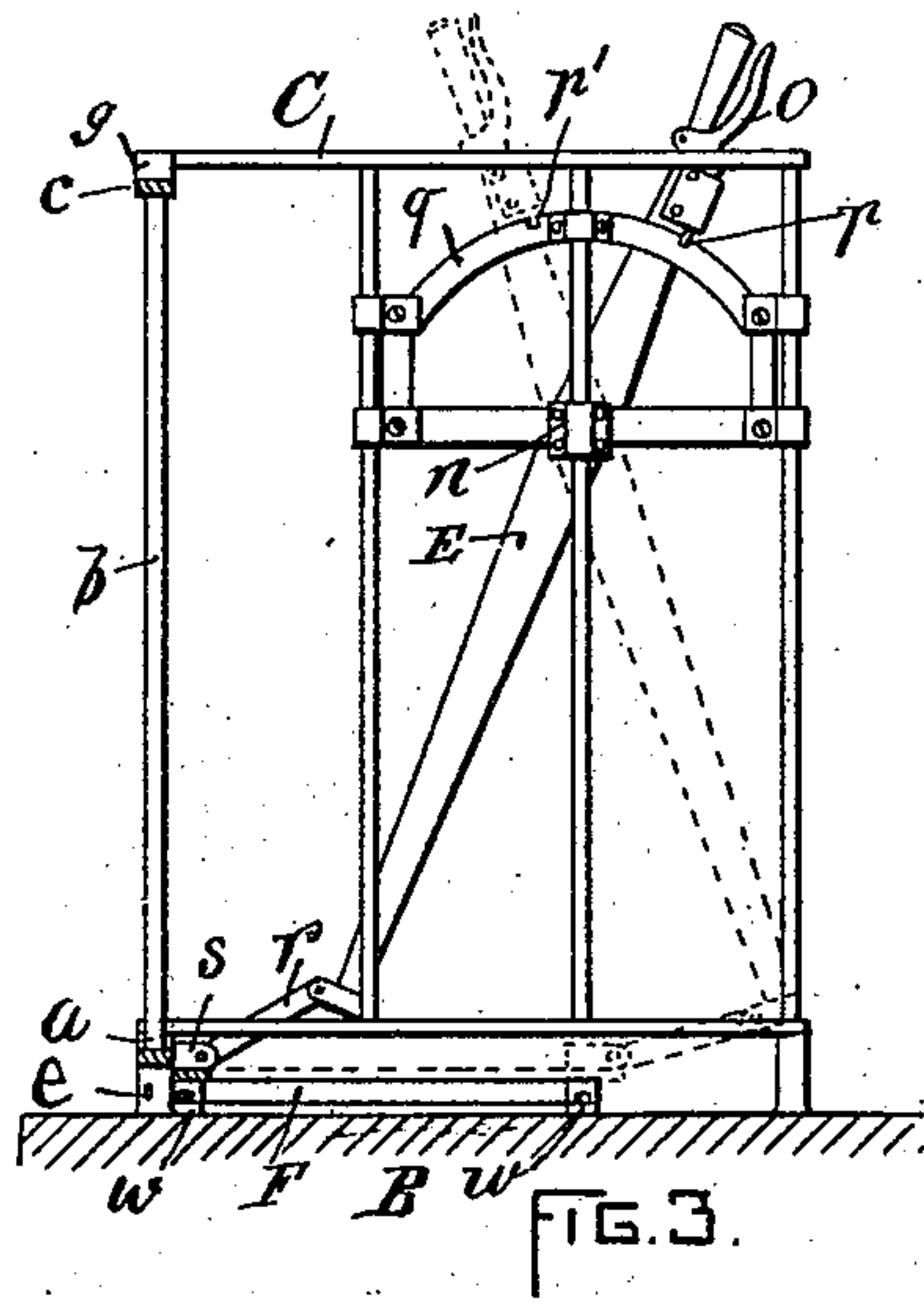
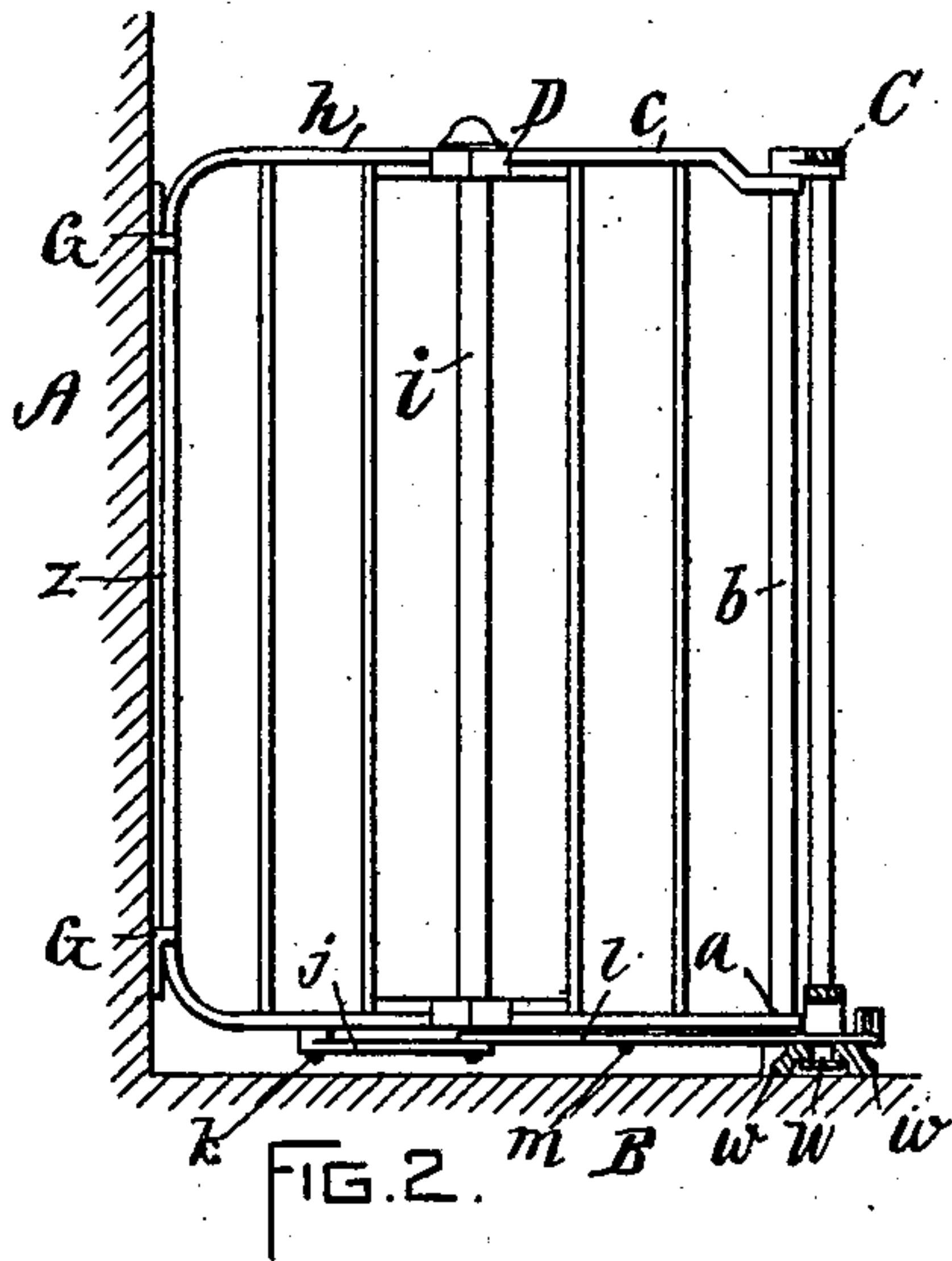
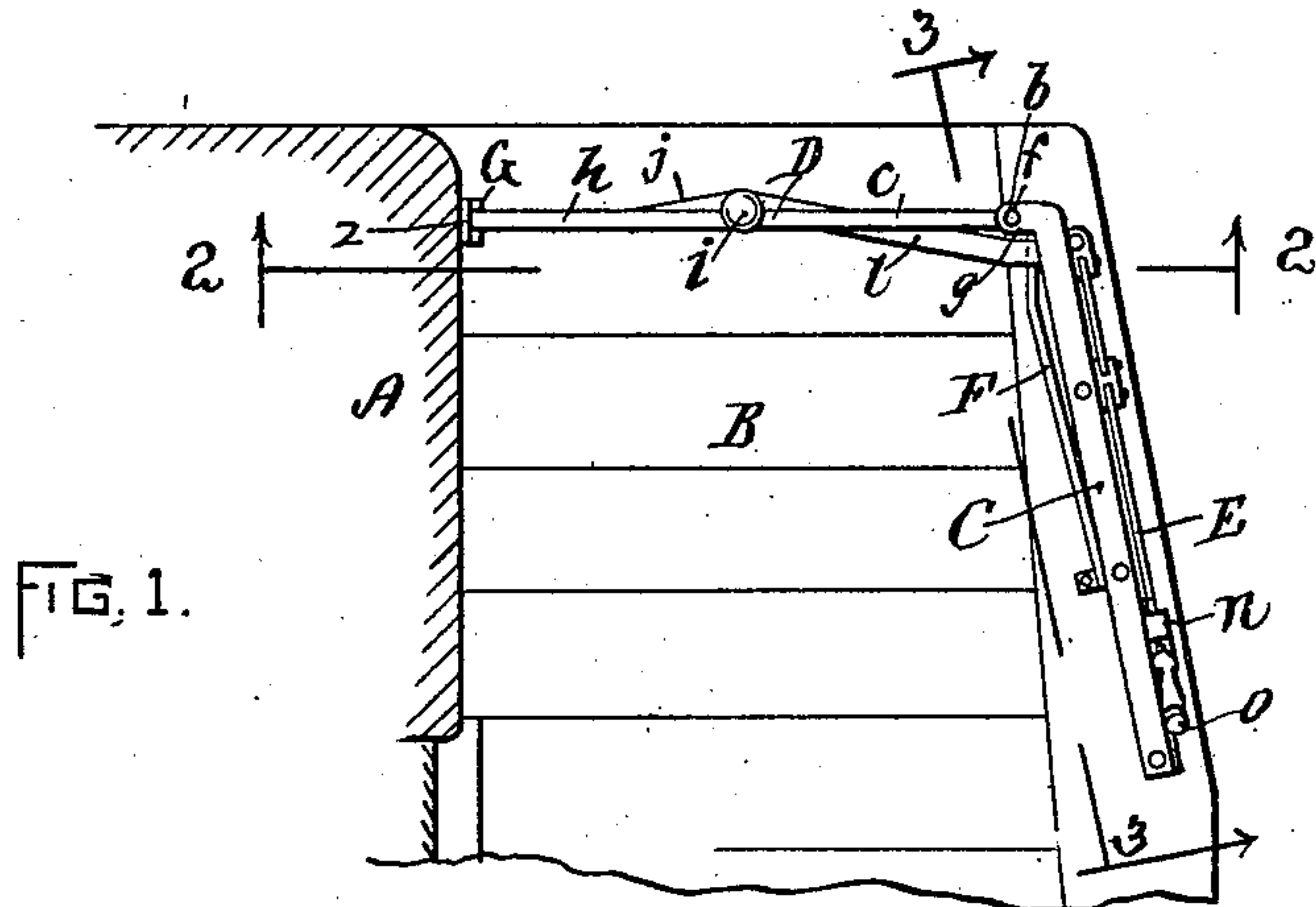
No. 692,985.

Patented Feb. 11, 1902.

N. H. COLWELL.  
FOLDING CAR GATE.

(Application filed Apr. 6, 1901.)

(No Model.)



WITNESSES:

Henry J. Garceau.  
Charles W. Lynch

INVENTOR:

Nicholas H. Colwell.

BY

Socrates Scholfield.  
ATTY.



# UNITED STATES PATENT OFFICE.

NICHOLAS H. COLWELL, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO R. BLISS MANUFACTURING COMPANY, OF PAWTUCKET, RHODE ISLAND.

## FOLDING CAR-GATE.

SPECIFICATION forming part of Letters Patent No. 692,985, dated February 11, 1902

Application filed April 6, 1901. Serial No. 54,721. (No model.)

*To all whom it may concern:*

Be it known that I, NICHOLAS H. COLWELL, a citizen of the United States, residing at Pawtucket, in the State of Rhode Island, have invented a new and useful Improvement in Folding Car-Gates, of which the following is a specification.

In cars employed upon elevated and other railroads it is very desirable to provide a folding gate which may be opened and closed within a very little space, so that the crowding of passengers upon the platform will not interfere with its operation; and my invention consists in the improved combination of a folding gate with the gate-operating means, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a top view of a car-gate embodying my improvement and showing the gate in its closed condition. Fig. 2 represents a vertical section taken in the line 2 2 of Fig. 1, showing a side elevation of the folding gate-sections. Fig. 3 represents a section taken in the line 3 3 of Fig. 1, showing a side elevation of the supporting-frame and the gate-operating means. Fig. 4 represents a bottom edge view of the closed gate. Fig. 5 represents a bottom edge view when the gate is nearly closed. Fig. 6 represents a bottom edge view showing the gate in its opened condition.

In the drawings, A represents the front portion of the car-body, B the platform, and C the supporting frame or grill to which the gate D is pivoted. The lower end *a* of the pivot-rod *b* of the rear gate-section *c* extends downward into the perforation *d* in the step *e*, while the upper end of the said pivot-rod is held in the perforation *f* in the bracket *g* of the supporting-frame C. The forward gate-section *h* is hinged to the rear gate-section *c* by means of the pivot-rod *i*, whereby the gate-sections *h* and *c* may be made to fold upon each other in opening the gate, as shown in Fig. 6. To the lower edge of the gate-section *h* is pivoted the link *j* at the point *k*, the opposite end of the link being jointed to the lever *l*, which is pivoted to the lower edge of the gate-section *c* at the point *m*, the said points *k* and *m* being located about equidistant from the line of the axis of the pivot-rod

*i*, the lever *l* and link *j* serving to form, with the gate-sections to which they are pivoted, a lazy-tongs movement, by means of which the proper opening and closing movement of the gate may be effected. The hand-lever *E* is pivoted to the supporting-frame C at the point *n* and provided with the hand-operated catch *o*, by means of which locking engagement may be made with the notches *p p'* at the edge of the segment-guide *q*, the position of the hand-lever *E* when the gate is closed being shown in Fig. 3 by the full lines and when the gate is opened by the broken lines. The lower end of the hand-lever *E* is connected with the outer end of the lever *l* of the lazy-tongs movement by means of the links *r* and *s*. To the under side of the lever *l* is secured the stud *t*, upon which is placed the flanged roller *u*, moving back and forth in the slot *v* of the fixed guide *F*, which is secured to the platform B by means of the ears *w w*, the said guide being deflected at its outer end *x* in order to provide for the proper closing movement of the gate and for proper engagement with the locking-catches *G* at the end of the car-body A.

In operating the gate the trainman of the car takes hold of the handle *y* of the lever *E* and actuates the catch *o* to release the said catch from its engaging notch *p*, and then moves the lever to a position in which the catch *o* will engage with the notch *p'*, as shown by the dotted lines in Fig. 3, and in this case the gate-sections *h* and *c* will be drawn back and folded, as shown in Fig. 6, and upon the reverse movement of the lever *E* the said sections will be opened out and thrown forward, so that the forward edge *z* of the gate-section *h* will engage with the groove of the locking-catches *G* at the end of the car-body, the gate being securely locked in both its opened and closed positions by means of the catch *o* and the notches *p p'*.

The construction and arrangement of the deflected guide *F* may be varied. Therefore I do not limit my claims to the specific form of construction shown in the drawings.

I claim as my invention—

1. In a car-gate, the combination of the folding gate-sections hinged to each other, with a lever and a connecting-link pivoted to the



folding gate-sections at opposite sides of the hinge-joint between them and forming therewith a lazy-tongs movement, whereby the gate-sections may be either opened out or folded, substantially as described.

2. In a car-gate, the combination of the folding gate-sections hinged to each other, with a lever and a connecting-link pivoted to the hinge-joint between them and forming therewith a lazy-tongs movement, the deflected guide, and the connecting means between the deflected guide and the lever of the lazy-tongs movement, substantially as described.

3. In a car-gate, the combination of the folding gate-sections hinged to each other, with a lever and a connecting-link pivoted to the hinge-joint between them and forming therewith a lazy-tongs movement, a deflected guide, connecting means between the deflected guide and the lever of the lazy-tongs movement, and the hand-operated lever connected with the lazy-tongs lever, substantially as described.

4. In a car-gate, the combination of the fold-

ing gate-sections hinged to each other, with a lever and a connecting-link pivoted thereto at opposite sides of the hinge-joint between the gate-sections, and forming therewith a lazy-tongs movement, and a deflected guide, controlling the outer end of the lever, means for actuating the lever along the deflected guide, and the gate-locking means, substantially as described.

5. In a car-gate, the combination of the supporting-frame and the hand-lever pivoted to the frame, with the folding gate-sections hinged to each other and pivoted to the frame, a lever and a connecting-link pivoted to the folding gate-sections at opposite sides of the hinge-joint between the sections, and forming therewith a lazy-tongs movement, link connection between the hand-operated lever and the lazy-tongs lever, and a deflected guide for controlling the lazy-tongs movement, substantially as described.

NICHOLAS H. COLWELL.

Witnesses:

SOCRATES SCHOLFIELD,  
CHARLES W. LYNCH.