

No. 641,262.

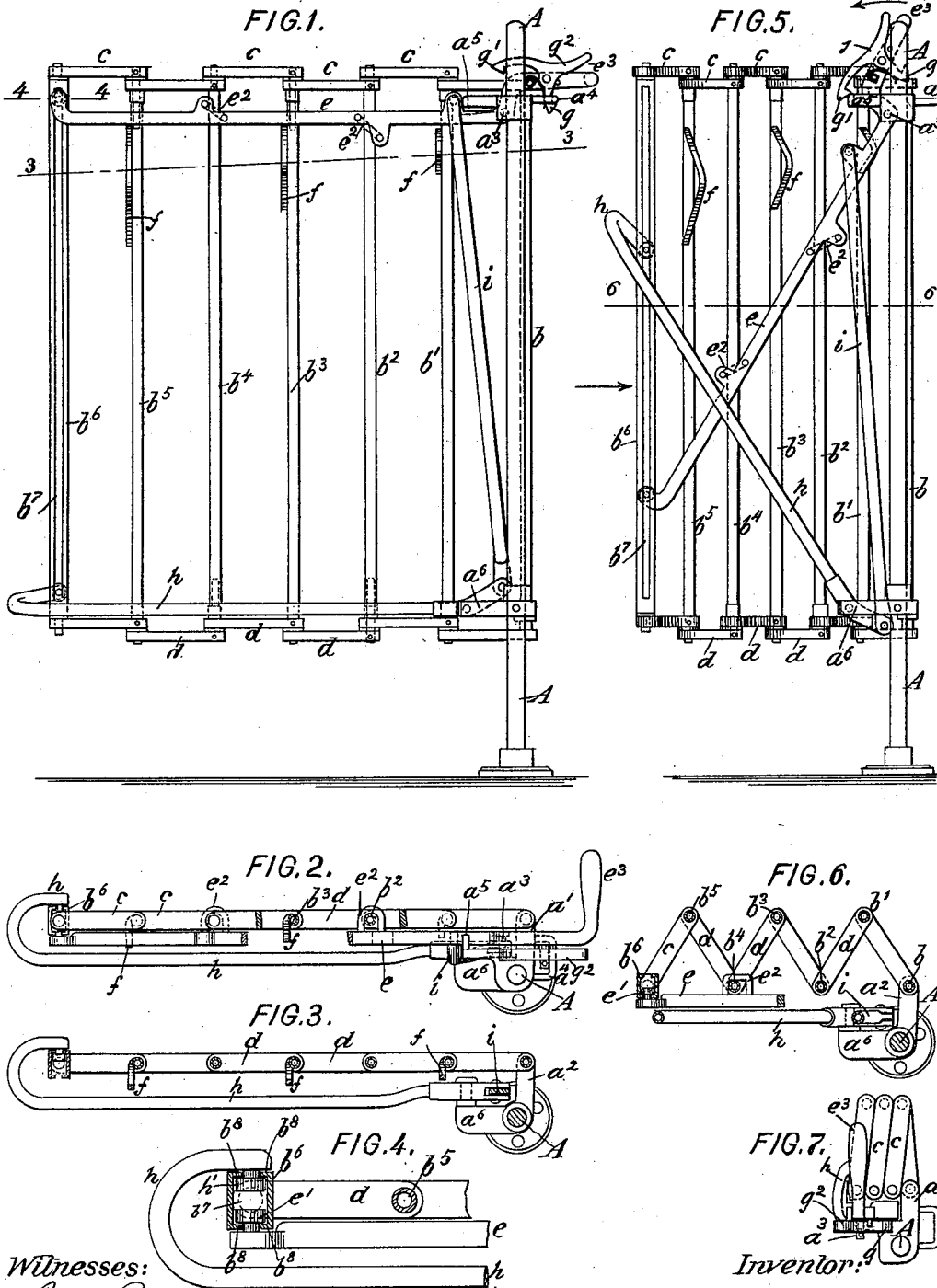
Patented Jan. 16, 1900.

J. BODE.
FOLDING GATE.

(Application filed Sept. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses: John Becker.
William Schuly.

Inventor: 
John Bode
by his attorneys
Roeder & Briesen

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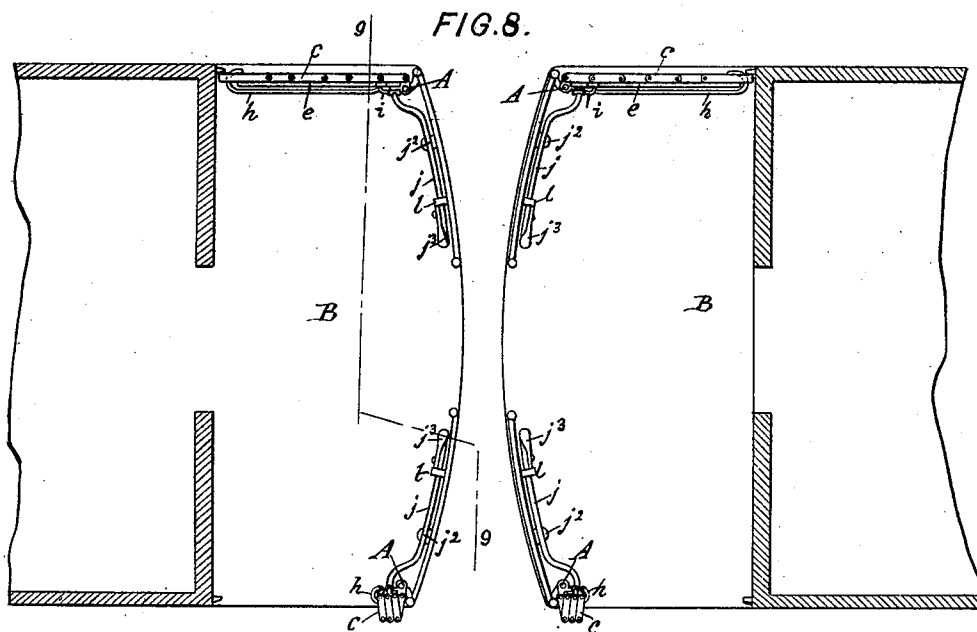
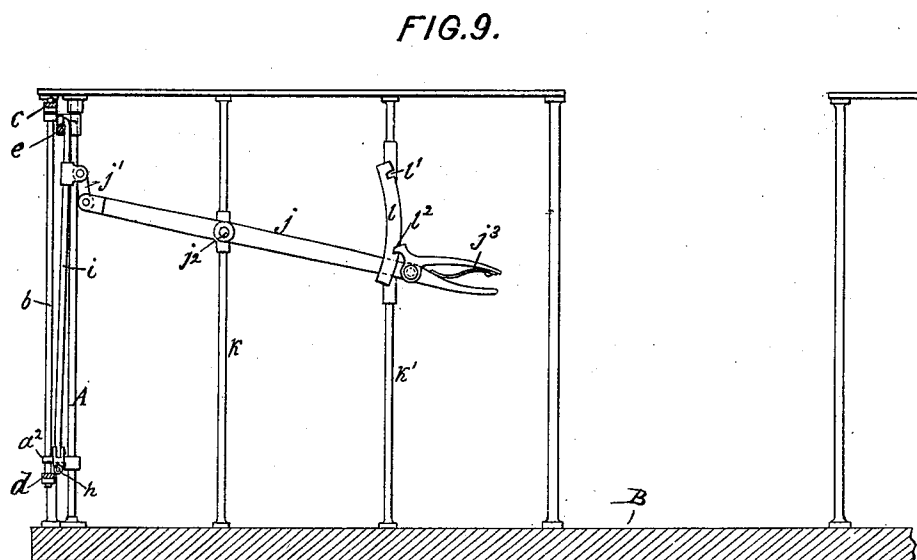
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UNITED STATES PATENT OFFICE.

JOHN BODE, OF JERSEY CITY, NEW JERSEY.

FOLDING GATE.

SPECIFICATION forming part of Letters Patent No. 641,262, dated January 16, 1900.

Application filed September 23, 1899. Serial No. 731,390. (No model.)

To all whom it may concern:

Be it known that I, JOHN BODE, a citizen of the United States, and a resident of Jersey City, New Jersey, have invented new and useful Improvements in Folding Gates, of which the following is a specification.

This invention relates to a folding gate, more particularly applicable for cars, though it may also be used for other purposes.

The gate is so constructed that it may be easily manipulated, will open and close freely, and will occupy a minimum space when folded.

In the accompanying drawings, Figure 1 is a side view of my improved folding gate, showing it distended; Fig. 2, a plan, partly in section, thereof; Fig. 3, a section on line 3 3, Fig. 1; Fig. 4, an enlarged section on line 4 4, Fig. 1; Fig. 5, a side view of the gate, showing it partly folded; Fig. 6, a section on line 6 6, Fig. 5; Fig. 7, a plan of the gate, showing it completely folded; Fig. 8, a plan of a modification, showing the invention applied to two adjoining car-platforms; and Fig. 9, an enlarged section on line 9 9, Fig. 8.

The letter A represents the post of the gate, adapted to be bolted or otherwise anchored to a car-platform or other base at its lower end.

From the post A project outwardly a perforated upper arm a^1 and a perforated lower arm a^2 , within which is free to turn the first bar b of a number of parallel upright bars $b^1 b^2$, &c. These bars pivotally connect at the upper ends a series of horizontal links c and at their lower ends a corresponding series of horizontal links d , the parts $b b^1$, &c., $c d$ constituting in effect the folding body of the gate.

From the upper end of post A projects a pivot a^3 , upon which turns an upper lever e , of a length substantially equal to the width of the gate, Fig. 1, so that the lever traverses the gate. The free end of lever e is provided with an outwardly-projecting headed stud or roller e^1 , which engages a longitudinal slot b^7 of the last or outermost bar b^6 , such bar being provided with flanged edges b^8 , Fig. 4, by means of which the roller is retained within the slot. When the gate is open, alternate bars will fold inward (toward the operator) and alternate bars will fold outward, Fig. 7. The inwardly-folding bars $b^2 b^4$ are embraced

by eyes e^2 , secured to the lever e and of a width greater than the diameter of the bars. The outwardly-folding bars $b^1 b^3 b^5$ are provided with inwardly-projecting tapering abutments or shoulders f , adapted to contact with the body of the lever e . Thus the lever by contacting laterally with the intermediate bars of the gate starts to fold the same alternately in opposite directions.

The lever e has a handle e^3 and is provided with a pivoted spring-catch g^2 , having two hooks $g g'$. The hook g is adapted to engage a keeper a^4 on post A when the lever e is folded upward, while the hook g' is adapted to engage a keeper a^5 when the lever is folded downward. Thus the gate is locked in its distended or closed position, Fig. 1, and also in its folded or open position, Fig. 7.

To a lower arm a^6 of post A is pivoted a lower lever h , which is actuated from lever e by a rod i , pivoted to the long arm of lever e and to the short arm of lever h , so that the levers will swing in opposite directions. The lower lever h is, similarly to lever e , provided at its free end with a headed stud or roller h' , engaging the slot b^7 of bar b^6 ; but the studs $e^1 h'$ enter the slot from opposite sides, Fig. 4, so that the levers will not interfere in passing each other.

The operation is as follows: When the gate is folded, Fig. 7, and is to be expanded or unfolded, the hand of the operator releases catch g' from keeper a^5 and simultaneously bears upon handle e^3 . This will swing lever e upward and lever h downward with their free ends until both levers arrive substantially in a horizontal position. During this motion the free ends of the levers will have forced the bar b^6 away from post A to the maximum extent, and thus the gate will be shut. As soon as the lever e has arrived at the end of its stroke the hook g will engage keeper a^4 to lock the gate in its extended position. To open the gate, the hook g is disengaged from keeper a^4 and the handle e^3 is simultaneously raised to force the free end of lever e down and the free end of lever h up.

Inasmuch as the bars $b^1 b^2 b^3$, &c., are substantially in the same vertical plane when the gate is extended, the dead-centers must first be overcome before the levers can commence

their effective movement. This is effected by the tapering abutments *f* on bars *b'* *b*³ *b*⁵ and by the eyes *e*² of lever *e*, which engage the intervening bars *b*² *b*⁴. As the lever *e* descends it will bear upon the abutments *f* to push the bars *b'* *b*³ *b*⁵ outward, while the eyes *e*² will simultaneously draw the intervening bars *b*² *b*⁴ inward, and the folding of the gate is thus started. As the levers *e* *h* make their stroke they will completely fold the gate, which is finally locked in its open position by the engagement of hook *g'* with keeper *a*⁵.

It will be seen that by means of the two levers *e* *h* swinging in opposite directions the gate is simultaneously attacked from opposite ends, so that a uniform motion ensues and jamming is prevented.

In Figs. 8 and 9 the invention is shown to be applied to the adjoining platforms B of a pair of cars, the construction being such that the guard may open simultaneously two gates, one with each hand. In this modification the catch *g*² is dispensed with and a lever *j* is by link *j'* connected to rod *i*. This lever is pivoted at *j*² to one of the uprights *k* of the platform-railing, to another upright *k'* of which is secured a segment *l*, having an upper notch *l'* and a lower notch *l*², adapted to be engaged by spring-catch *j*³ of lever *j*. As the lever *j* is swung up or down, the gate will be opened or closed in manner hereinabove described, the levers *j* of adjoining platforms being placed in such close proximity that they may be simultaneously grasped and manipulated.

What I claim is—

1. A folding gate composed of a series of bars, pivoted connecting-links, a lever traversing the gate, eyes on the lever that engage alternate bars, and a sliding connection

between the outermost bar and the free end of the lever, substantially as specified.

2. A folding gate composed of a series of bars, pivoted connecting-links, tapering abutments on alternate bars, a lever adapted to contact with the abutments, and eyes on the lever which engage the intermediate bars, substantially as specified.

3. A folding gate composed of a series of bars, pivoted connecting-links, tapering abutments on alternate bars, a lever adapted to contact with the abutments, eyes on the lever which engage the intermediate bars, and means for causing a sliding engagement between the lever and the outermost bar, substantially as specified.

4. A folding gate composed of a series of bars, pivoted connecting-links, a pair of levers that movably engage the outermost bar, and a rod that connects the levers, substantially as specified.

5. A folding gate composed of a series of bars, pivoted connecting-links, a pair of levers that movably engage the outermost bar, means for connecting the levers, means for throwing alternate bars out of vertical alignment, and means for locking the gate in its terminal positions, substantially as specified.

6. A folding gate composed of a series of bars, pivoted connecting-links, a pair of levers that movably engage the outermost bar, tapering abutments on alternate bars, eyes on one of the levers that engage the intermediate bars, and a catch for locking the gate in its terminal positions, substantially as specified.

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Witnesses:

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