(No Model.)

B. HUMMERS.

FOLDING GATE.

No. 589,503. Patented Sept. 7, 1897.

Fig. 1.

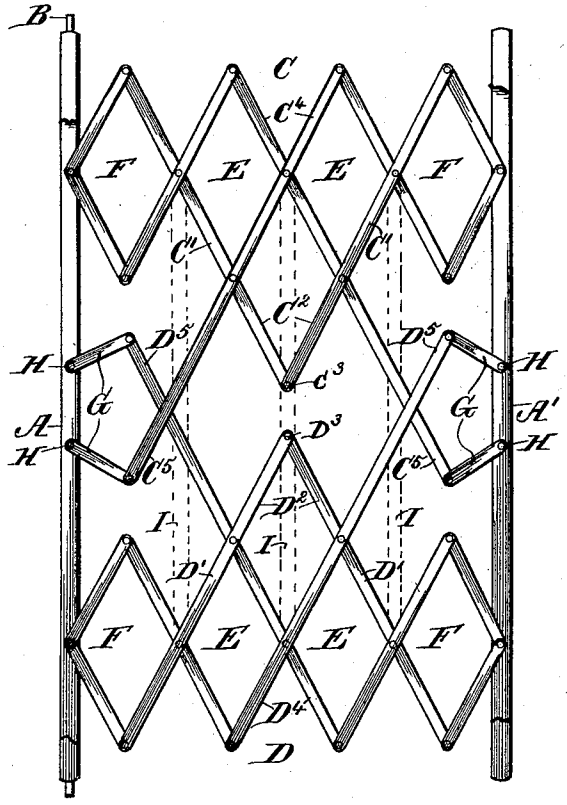
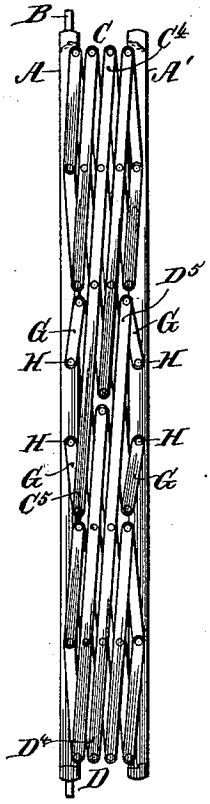


Fig. 2.



Witnesses.
B. M. Scott.
Chester Higgins.

Inventor:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERNHARD HUMMERS, OF WINFIELD, NEW YORK, ASSIGNOR TO HERBERT G. THOMPSON, OF NEW YORK, N. Y.

FOLDING GATE.

SPECIFICATION forming part of Letters Patent No. 589,503, dated September 7, 1897.

Application filed July 9, 1896. Serial No. 598,546. (No model.)

To all whom it may concern:

Be it known that I, BERNHARD HUMMERS, a subject of the Emperor of Germany, residing at Winfield, county of Queens, and State of New York, have invented a new and useful Improvement in Folding Gates, of which the following is a specification.

My invention is particularly intended for folding gates for use in any situation—such as in railway-cars, ferry-boats, ferry-slips, &c. These gates comprise, in the main, parallel and usually vertical bars connected transversely by lazy-tongs.

Among the objects of my invention is so to improve folding gates of this description that the use of the ordinary sliding joints, which are expensive, cumbersome, require oiling, and increase the labor of opening and closing the gate, is avoided, while at the same time provision is made for bracing the lazy-tongs with respect to the vertical bars, so that the gate will open and close evenly and will be firmly upheld when opened. I attain these and other ends mainly by connecting one or more of the diagonal rods of the lazy-tongs with the vertical bars by braces pivoted to said bars, so as to swing thereon with the folding and opening of the gate and at the same time sustain the lazy-tongs in all positions.

In order that my invention may be clearly ascertained, I shall first describe in detail the mode in which I practice the invention, and then particularly point out the invention in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which corresponding parts are designated by like letters of reference in both figures.

Figure 1 is a side elevation of a folding gate embodying my invention when open. Fig. 2 is a side elevation of the same when folded.

A A′ designate the parallel end bars of the gate, which in this example of the invention are each made double to receive the lazy-tongs and connections between the parts, the bar A having end gudgeons B for pivoting it to swing in the horizontal plane, and the bar A′ being the movable bar to be latched to a gate-post or to another folding gate. The bars A A′ are in this instance connected by upper and lower lazy-tongs C and D, respectively, the opposite ends of which are pivoted to the bars A A′, so as not to slide lengthwise thereon. The pairs of diagonal rods C′ D′ of the tongs C D are in this instance extended vertically beyond the said tongs toward each other and the center of the gate, and the converging rod extensions C^2 D^2 of each pair are pivoted together by pivots C^3 D^3, as shown.

To support the lazy-tongs C and D horizontally while opening and closing, the pairs of diagonal rods C^4 and D^4, which are crossed at the middle of the gate and form part of the diamonds E beyond the diamonds F, pivoted to the end bars A A′, are extended by me and diverge beyond the lazy-tongs C D and the converging rod extensions C^2 D^2, and are crossed and connected with the end bars A A′ by braces G, pivoted to said diverging rod extensions C^5 D^5 and converging to the respective bars A A′, to which they are pivoted by pivots H.

I have shown the braces G on each bar A or A′ connected by separate pivots to said bar, but the braces may have common pivoted connections therewith, if preferred.

In Fig. 1 I also have indicated in dotted lines parallel bars I other than the end bars A A′, connecting the successive pivots of the lazy-tongs C D in the same vertical line to cooperate with the braces G in stiffening the gate in situations where greater strength is required. The pivotal braces G, being pivotally connected to the diagonal rods C^4 D^4 of the lazy-tongs diamonds beyond those which are on the bars A A′, swing in arcs corresponding very closely with the motion of the ends of the said rod extension C^5 D^5, and thus allow the gate to open and close freely, while at the same time acting in all positions to brace and sustain the lazy-tongs firmly in their horizontal position.

It will be seen that when the gate is folded the braces G fold up closely against the rod extensions C^5 D^5.

It is apparent that the successive pivots of the two lazy-tongs C D (which pivots may be connected by the vertical rods I, as indicated in Fig. 1) move in parallel horizontal lines,

and thus would require merely a pivotal connection with the rods I.

I claim as my invention—

1. The folding gate herein described, as comprising parallel bars A A′ connected by a lazy-tongs as C, pivoted at its respective ends to the bars A A′, the lazy-tongs rods C′, having outside extensions C^2 pivoted together at C^3, and the lazy-tongs rods C^4 having outside extensions C^5 pivotally connected to braces G, pivoted to the bars A A′.

2. The folding gate herein described, as comprising parallel bars A A′, connected by a lazy-tongs as C, pivoted at its respective ends to the bars A A′, the lazy-tongs rods C^4 of the diamonds E having outside extensions C^5 continued beneath the adjoining end diamonds F, and pivotally connected to braces G, pivoted to the bars A A′.

3. The folding gate herein described, as comprising parallel bars A A′ connected by parallel lazy-tongs C, D, pivoted at their ends to the bars A A′, the lazy-tongs rods C^4 D^4 of the respective lazy-tongs having extensions C^5 D^5, crossed over each other and pivotally connected to braces G, converging toward and pivoted to each of the bars A A′.

In testimony whereof I have hereunto set my hand the 11th day of March, 1896.

BERNHARD HUMMERS.

In presence of—
JOHN J. BANNAN,
MICHAEL CUNNINGHAM.