J. E. Q. MADDOX.

GATE.

No. 191,984. Patented June 12 1877.

Fig. 1

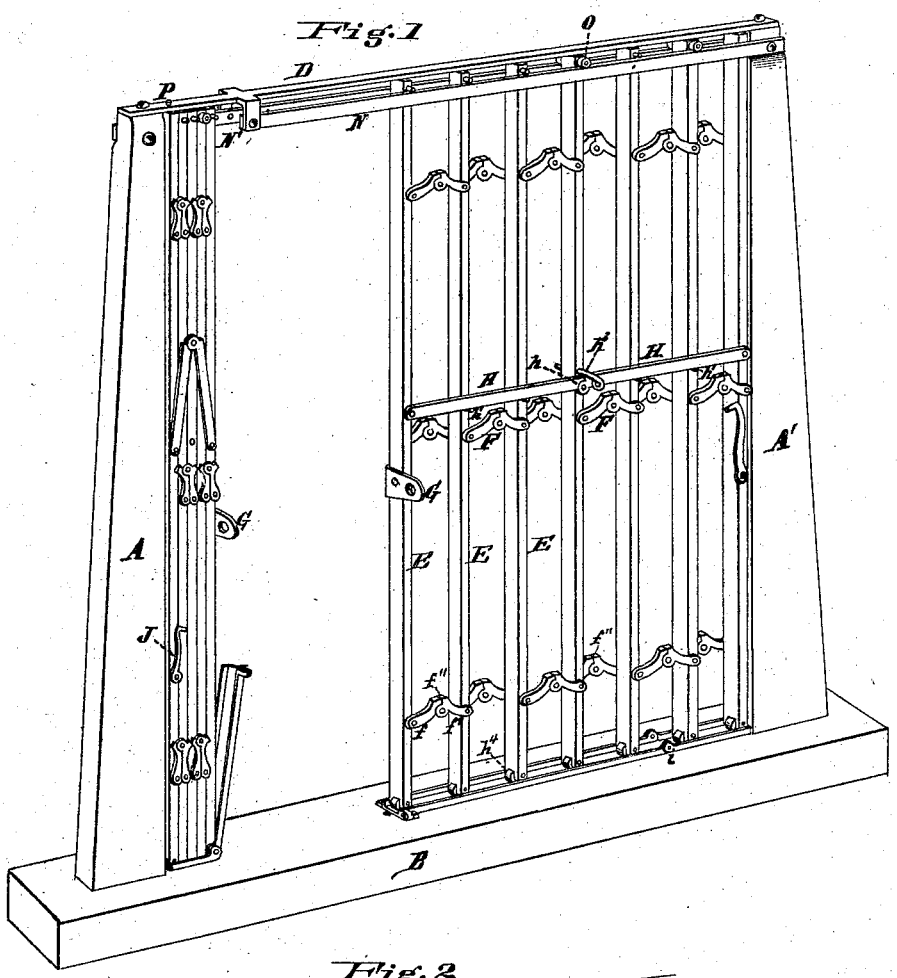
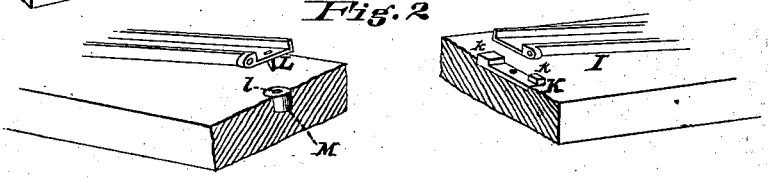


Fig. 2



Attest

Edgar J. Gross

John E. Jones.

Inventor

James E. Q. Maddox

By Y. Millward

Atty

UNITED STATES PATENT OFFICE.

JAMES E. Q. MADDOX, OF CINCINNATI, OHIO.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **191,984**, dated June 12, 1877; application filed April 14, 1877.

To all whom it may concern:

Be it known that I, JAMES E. Q. MADDOX, of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Collapsing Iron Gates, of which the following is a specification:

My invention is designed for the formation of a gate or grating which can be expanded and contracted to a very great extent for the purpose of closing the space in hallways of stores, &c., on the line of the street, and for other uses, so that burglars cannot enter halls for operations upon the inside doors thereof.

My invention consists, in the first part, of a series of sliding vertical bars, linked together at two or more lines of connection by knuckle-joints with stops, the whole being arranged to be drawn out from the wall, so as to fill up the space in the hallway, and fold up close together again against the wall into a small compass, and, if necessary, fold back against the wall when so contracted.

My invention further consists in a provision, in connection with these vertical sliding bars, of a folding gutter-plate, which, in one position, forms a groove or track for the bars to move on snugly and securely, and in the other position to inclose the bars tightly together in a compact form.

My invention further consists in a certain attachment of the bars in bulk to the side framing of the doorway, so that, when folded up closely, they may be swung back into a recess or against the side of the wall, so as to leave the hallway entirely open.

In the accompanying drawings, Figure 1 is a perspective view of a gate or grating for a hallway embracing my improvement. Fig. 2 exhibits modified forms of the folding track.

A A′ represent the side jambs of the hallway, and B the sill, located, usually, on the line of the street, or nearly so. D represents an upper cross-track, which may be secured to the top of the hallway in any preferred way. In some cases, however, this track D may be half way down, or at any other point in the height of the hallway, and arranged to fold up against the wall when the gate is contracted.

My gate or grating is formed by the vertical bars E, connected together by knuckle-joints F in lines at two or more points in the height of the gate. These knuckle-joints are each formed of two members, *f f′*, pivoted to the bars, as shown, and hinged in the middle, so that they expand against the stop *f″* in the hinge-joint, the stop being arranged so that when it comes into action the pivot-pin in the middle will be higher than the pivot-pins at the ends. This arrangement provides for the contraction of the gate without touching the knuckle-joints. The gate may be formed in two parts, as shown in the drawings, and when drawn out so as to close the hallway, the ears G are brought together, and a lock may be inserted therein. When the gate is expanded two bars, H H′, which are pivoted to the end bars and hinged in the middle at *h*, drop into place horizontally on the pins of the bars *h′*, and serve to brace the two end bars apart firmly.

To further assist in this bracing a pin, *h‴*, may be inserted into the central bar and locked.

The bars H H′ may be notched partly through, and drop so that the notches will fit over the pins *h′* and hide them from view, at the same time that they act to brace each bar in place. These notches may be V-shaped to drop easily over the pins. The lower ends of the bars are armed with anti-friction rollers *h⁗*, and I provide a gutter-plate, I, upon which these rollers move, the gutter-plate having flanges at the back and front to inclose the ends of the bars, in the manner shown. This gutter-plate I is in two parts, hinged at *i*, so that when the gate is contracted it may be folded up, as shown at the left side of Fig. 1, and, by means of the hook J, serves to receive the gate in the position shown at that side in a very secure manner. The inside ends of the gutter-plate, when the gate is in two parts, may be retained firmly on the sill by means of the plate K, having projections *k*, or by a pin, L, fitting in the aperture *l* in a metallic plug, M, in the sill.

The upper ends of the bars are retained in place by the side bars N, between which they slide, and they may have anti-friction rollers O to reduce the friction. An opening, N′, may be made at the side, through which, when the bars are closed together, the whole may be swung back against the wall on the hinges P, to which the inside bar is attached, so that

the gate or part of the gate may, when closed up into the smallest compass, be folded back against the wall or into a recess in the wall, so that the entire space of the hallway or door, as the case may be, is left open.

In place of the knuckle-joints F being outside and inside of the gate, they may be all inside or all outside; and in place of being in complete rows, as shown, each joint connecting adjoining bars, each joint may connect distant bars, with one or more bars between, the joints being alternated so that all the bars are coupled. In place of the space N′ being entirely open to permit the swinging back of the gate, the bar N on that side may be curved outward to the circle described by the swinging gate, so that the bars cannot lean over at the top in swinging in case the hook J is accidentally released from the gutter-plate.

I claim—

1. The grating or gate for hallways or doorways, composed of expanding bars E, joined together by knuckle stop-joints F *f f′ f″*, substantially as and for the purpose specified.

2. In combination with the sliding bars E and connecting devices F, the hinged gutter-plate I, substantially as and for the purpose specified.

3. In combination with the folding bars E and pieces F, the hinges P at the sides and the side bars N, one of which, at N′, permits of the swinging of the gate when in a folded condition, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

JAMES E. Q. MADDOX.

Witnesses:

JOHN E. JONES,

J. L. WARTMANN.