

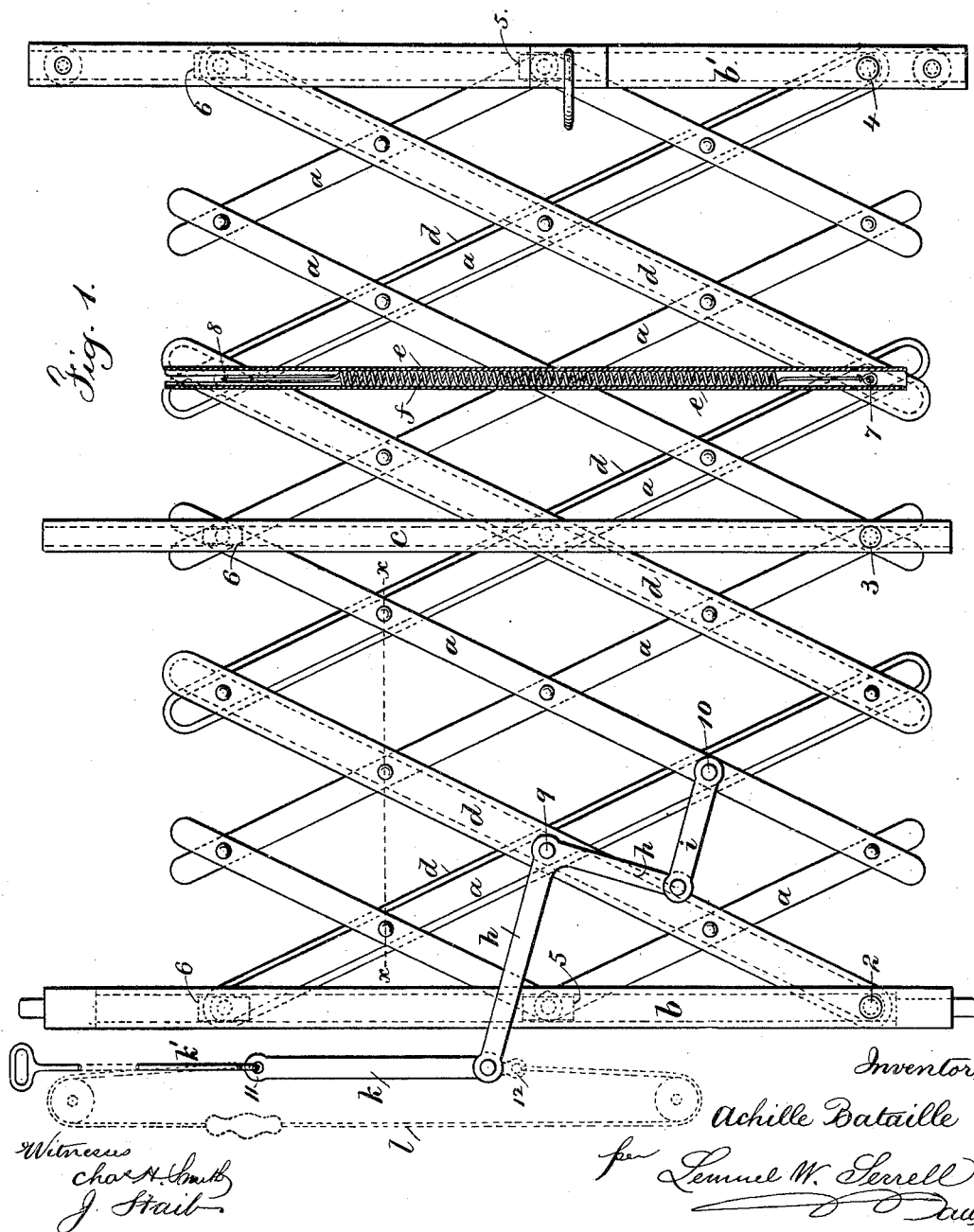
(No Model.)

2 Sheets—Sheet 1.

A. BATAILLE.
FOLDING GATE.

No. 417,898.

Patented Dec. 24, 1889.



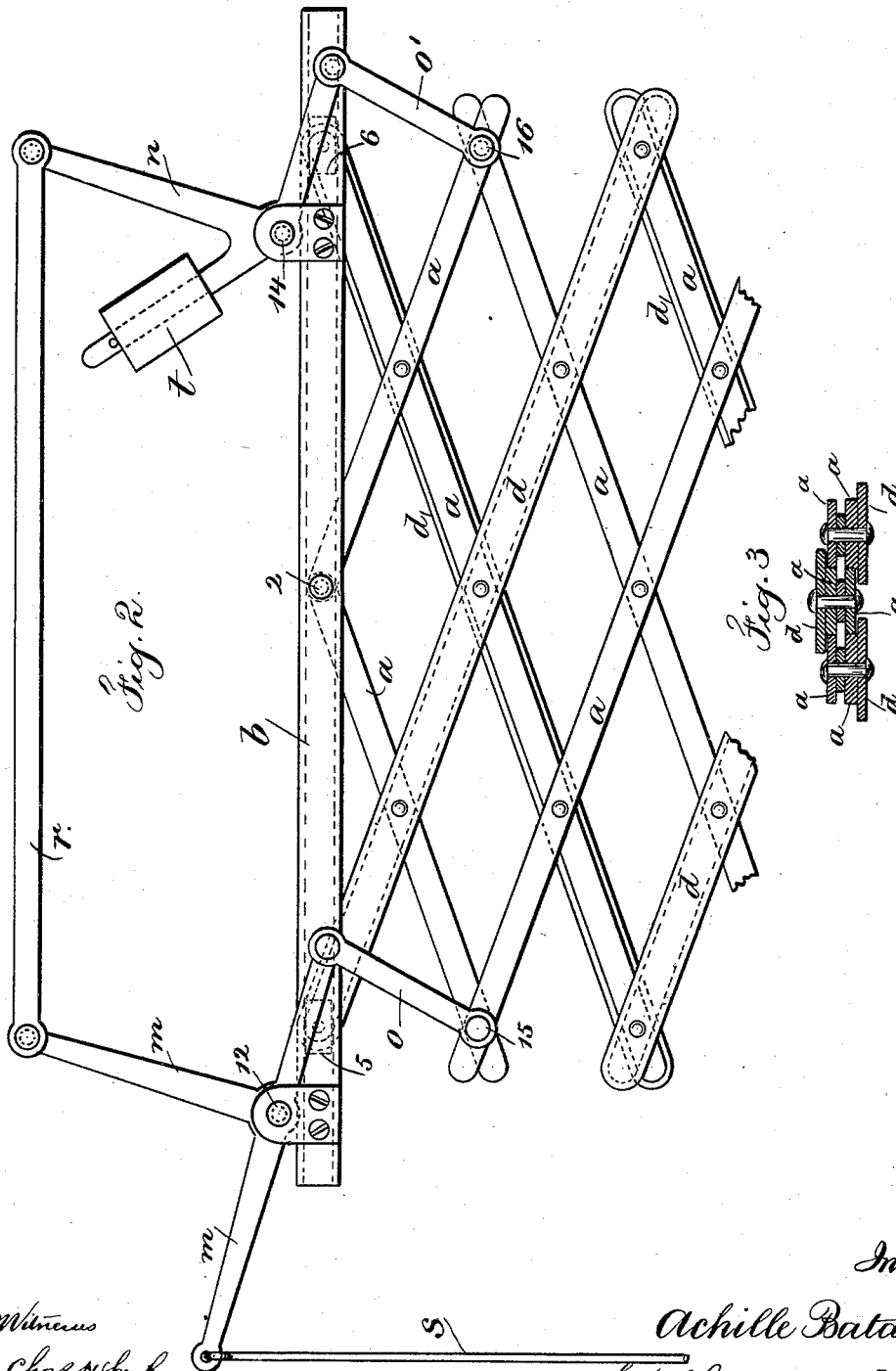
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UNITED STATES PATENT OFFICE.

ACHILLE BATAILLE, OF NEW YORK, N. Y.

FOLDING GATE.

SPECIFICATION forming part of Letters Patent No. 417,898, dated December 24, 1889.

Application filed May 8, 1889. Serial No. 310,012. (No model.)

To all whom it may concern:

Be it known that I, ACHILLE BATAILLE, of the city, county, and State of New York, have invented an Improvement in Folding Gates; and the following is declared to be a full, clear, and exact description of the same.

Gates, elevator-doors, and guards of various patterns have heretofore been made of a system of bars or levers of the well-known lazy-tongs pattern. It is frequently required that these devices be closed up into a space the boundaries of which are limited, and it has heretofore been difficult to construct gates or guards of this pattern so that they would shut up or close within a given limit, and it has also been inconvenient always to open and close gates or guards of this pattern by the usual handle, and occasionally it is desirable that these gates or guards be suspended overhead and have their movement vertically, and in such cases it is necessary that the same be opened and shut otherwise than by a simple handle.

The object of my invention is to construct a gate or guard of the lazy-tongs pattern so that the same can be closed within a limited space, and also to provide means for opening and closing said gates or guards from a given point without the use of the usual handle; and in carrying out my invention I employ narrow bars or levers in the construction of the gate or guard, in combination with outer overlapping bars that are wide. These wide bars provide the necessary strength and stiffening to the gate or guard, and because they overlap the narrow bars the whole gate can be shut up into a smaller compass than would be possible if all the bars were sufficiently wide to provide the necessary strength; and I employ also a spring device for assisting in opening the gate, and lever systems actuated by hand at a given point for opening and shutting the gate, so that the person who operates the gate or guard does not have to walk or move with the same its full length of movement, but can operate the same while standing still.

In the drawings, Figure 1 is an elevation of a gate or guard made according to my improvement. Fig. 2 is an elevation of a modi-

fication of the same; and Fig. 3 is a section at the line *xx* of Fig. 1, with the bars or levers closed.

The gate or guard, Fig. 1, is composed of a system of levers of the lazy-tongs pattern, in which *a* are the bars pivoted together at their intersections and forming the gate. The vertical bars or frames *b b'* form the ends of the gate, and the vertical bars or frame *c* the center of the gate, and 2, 3, and 4 are the fixed points at which the bars *a* are pivoted to the uprights *b b' c*, and the usual slideways and blocks are provided in these bars, at 5 and 6, for the motion of the pivots in closing or opening the gate. The bars *a* composing the system of levers are made quite narrow, their width being governed by the length of the gate and the space into which the same is to be shut up. Said bars are always made much narrower than in similar gates as heretofore made, and I provide external overlapping bars *d* of much greater width than the bars *a*, and said bars *d* are arranged as shown in Fig. 1, forming groups of X-figures, their extreme ends and centers being held together by the same rivets that hold the bars *a*, and these bars *d*, being, because of their width, of greater strength than the bars *a*, act to stiffen the gate and provide the necessary strength to the same; and it will be seen that these bars *d* are connected to every alternate bar *a* and overlap the intermediate bars *a*; and these bars *d* may be of sufficient width almost entirely to overlap the intermediate bar *a* if it is found necessary for the strength of the gate. These bars *d* might, if desired, be connected to every third or fourth bar *a*, it being evident that the size of the gate and the circumstances under which the same is to be used will govern the location, the number, and the width of these bars *d*.

At *e*, I provide a tube, vertically placed and parallel to the bars or frames *b b' c*, and pivoted at 7 to one surface of the series of levers or bars *a*. The upper end of the tube *e* is slotted, and said slot receives at 8 an arm of the pivot, to which one end of the helical spring *f* is connected. This spring *f* is within the tube *e*, and its lower end is connected to the pivot 7. The action of this spring is con-

tractile, tending to draw toward each other the points 7 and 8, and this assists in opening the gate by spreading the system of levers.

For opening and closing the gate a right-angled or bell-crank lever *h* is employed, pivoted at 9 to the system of levers, and also connected thereto by a link *i* pivoted at 10. There is a link *k* and rod *k'* connected to the other end of the lever *h*, and one end of said rod *k'* is provided with a handle, and by the vertical movement of the rod *k'* and link *k* the lever *h* is swung upon the pivot 9, and the link *i* moves the pivot 10 nearer to the bar *b* or farther from it to open the gate, or the reverse. Instead of using the rod *k'*, an endless rope or chain *l* (shown by dotted lines) may be employed, the same having a handle and passing around pulleys, the respective ends of said rope or chain *l* being connected to link *k* at 11 and 12. This device will operate the lever *h* and link *i* as effectively as the rod *k'*, and the rope or chain *l* may be of any desired length, so that a gate upon one floor may be operated from a floor above or below it.

The device shown in Fig. 2 is a hanging gate adapted to open and shut vertically, the system of levers *a* being centrally pivoted at 2 to the horizontal bar *b*, the slideways and blocks 5 and 6 being at the ends of the bars. In this device I provide right-angled levers *m n*, pivoted at 12 14 in lugs fastened to the frame or bar *b*. These levers *m n* have pivoted to them links *o o'*, which links in turn are pivoted to the ends of the bars *a* at 15 and 16, and a rod *r* connects the other ends of the levers *m n*, so that the two levers operate together. By pulling upon the rod *s* the gate formed of the system of levers *a* is raised or lowered and opened or shut. The weight *t*, connected to an arm of the lever *n*, acts as a counterpoise to balance the weight of the gate as the same closes, the efficiency of the weight *t* increasing as the same descends to a horizontal position.

I do not limit myself to the exact construc-

tion of the operating-lever systems for opening and closing the gate, as the same might be varied by existing circumstances.

I claim as my invention—

1. In a gate or guard composed of a system of levers of the lazy-tongs pattern, the combination, with the narrow bars *a*, of the wider external overlapping bars *d*, substantially as and for the purposes set forth.

2. In a gate or guard of the lazy-tongs pattern, the combination, with the bars *a*, composing the system of levers, of the vertical tube *e*, pivoted at 7 at its lower end and slotted at its upper end, and the internally-placed helical spring *f*, connected at its respective ends, substantially as and for the purposes set forth.

3. In a gate of the lazy-tongs pattern, the combination, with the narrow bars *a* and the wider external overlapping bars *d*, forming the system of levers, and the metal end bar *b*, to which one end of such system of levers is connected by a pivot and slides, of a pivoted bell-crank lever, a link pivoted at its ends to one arm of the lever and to one intersection of the bars, and a rod connected to the other arm of the lever and adapted to be moved by a hand device for opening and closing the gate, substantially as specified.

4. In a gate of the lazy-tongs pattern, the combination, with the bars *a*, forming the system of levers and with the horizontal bar *b*, of the levers *m n*, pivoted to lugs upon the bar *b*, the links *o o'*, pivoted to the levers and to intersections of the bars *a*, the rod *r*, connecting-arms of said levers *m n*, the operating-rod *s*, connected to the lever *m*, and the weight *t*, substantially as and for the purposes set forth.

Signed by me this 3d day of May, A. D. 1889.

ACHILLE BATAILLE.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.