(No Model.)

W. CHAMBERS.

GATE.

No. 475,198. Patented May 17, 1892.

Fig. 1.

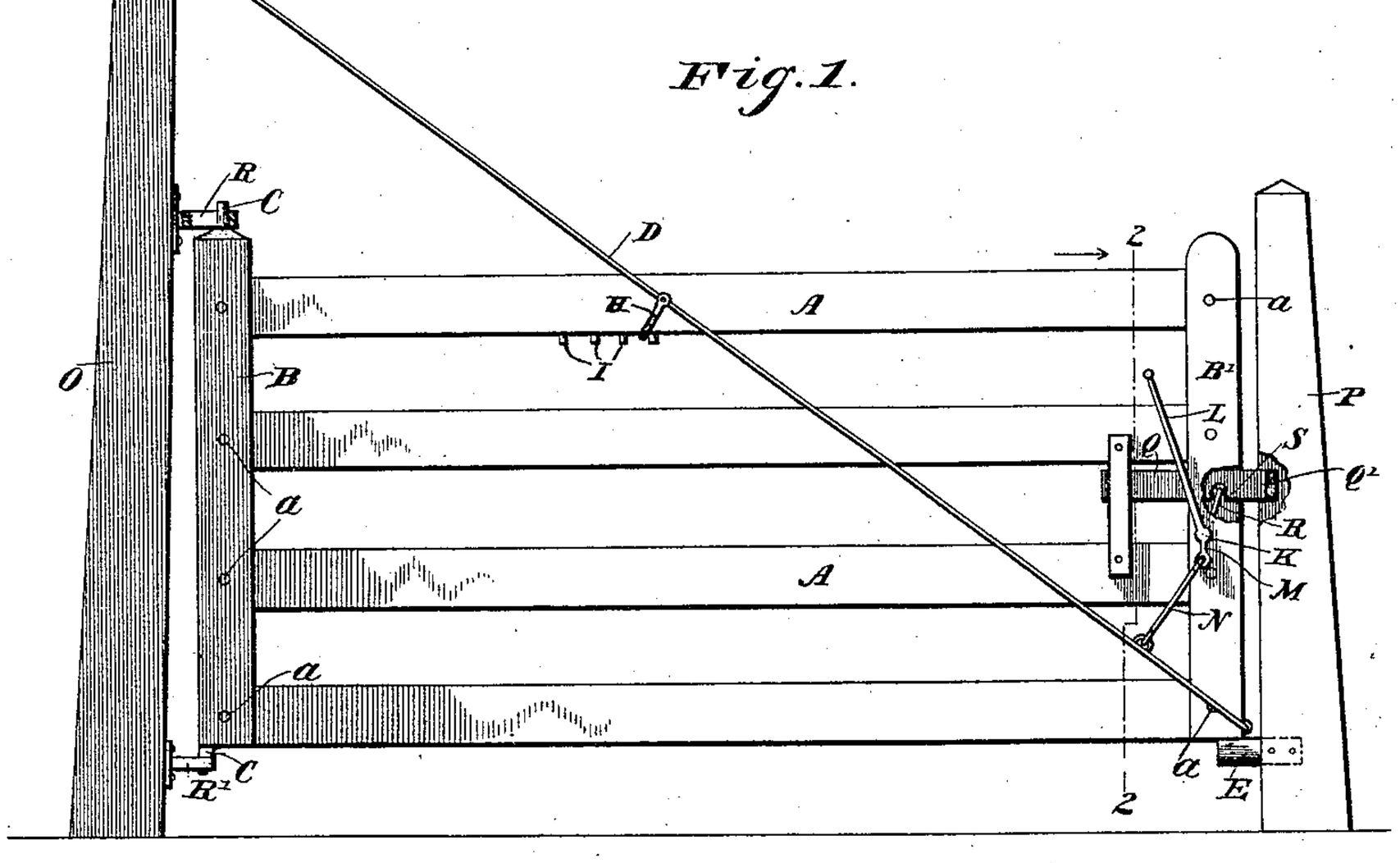


Fig. 2.

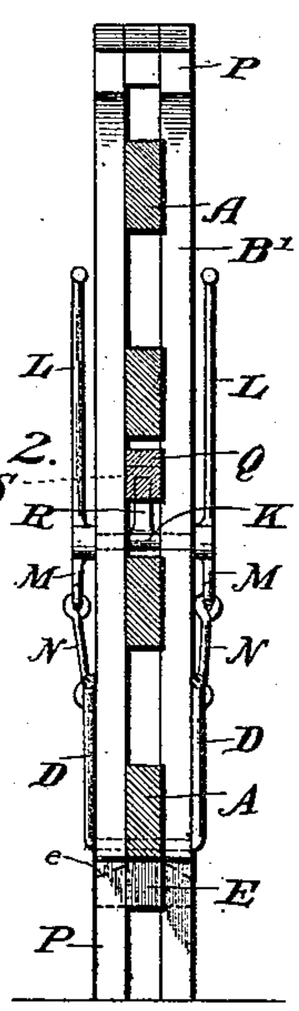


Fig. 3.

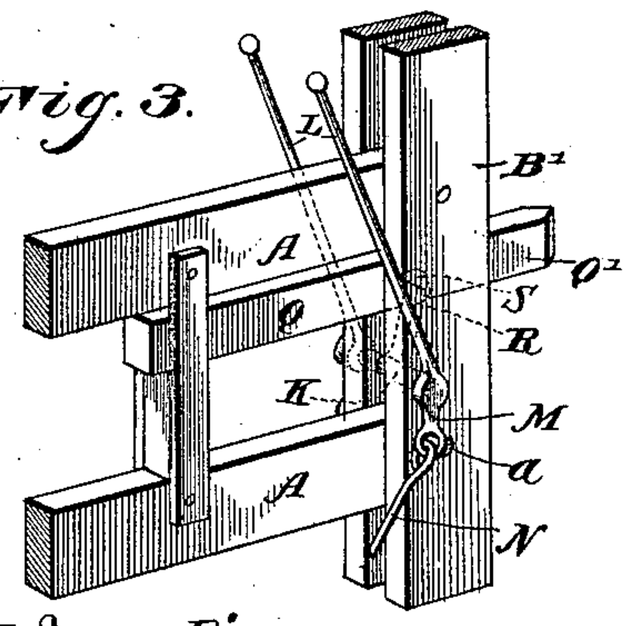
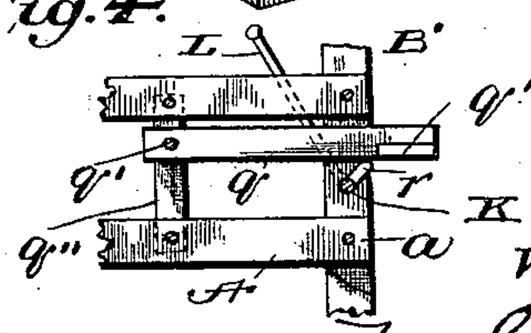


Fig. 4.



Witnesses;

Mark Marcy.

Jno. W. Thrower.

Inventor,

Wm. Chambers,

by Collamer & Co.

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM CHAMBERS, OF ST. CLAIRSVILLE, OHIO.

GATE.

SPECIFICATION forming part of Letters Patent No. 475,198, dated May 17, 1892.

Application filed February 16, 1892. Serial No. 421,730. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CHAMBERS, a citizen of the United States, residing at St. Clairsville, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to swinging gates having folding panels; and the object of the same is to produce certain improvements in gates of this character.

To this end the invention consists in the construction hereinafter more fully described and claimed, and as illustrated on the accompanying sheet of drawings, wherein—

Figure 1 is a side elevation of this improved gate in closed position. Fig. 2 is a vertical section on the line 2 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is an enlarged perspective detail of the latch. Fig. 4 is a detail in elevation showing a modified form of latch which may be used.

Referring to said drawings, the letter O designates the main or hinge post carrying an eye R′ and a slotted upper eye R.

B is the inner batten having pins C C, which are mounted loosely in said eyes, so that the gate may turn, and B′ is the outer batten, which is connected with the inner by the bars A, which are pivotally bolted, as at *a*, to said battens.

P is the latch-post carrying a pillow E, upon which the outer batten B′ rests when the gate is closed, as seen in Fig. 1, and D is a pair of truss rods or wires secured to the lower end of this batten, passing up alongside the body of the gate and looped into a supporting-eye E′ at the upper end of the hinge-post in rear of the hinge-line, whereby the outer end of the gate is supported when open and caused to rise slightly in the act of opening. H is a clevis connecting these truss-rods and looped under the top rail, and I I are pins or notches in said rail, with which the center of said clevis may be adjustably engaged to tighten said truss-rods, as is desirable to adjust the size and shape of the gate when it has become sagged or when it is to be hung on a side hill.

The gate so far described may swing in either direction, as will be clear. When closed, it normally rests on the pillow E, so as to prevent its sagging out of shape; but by the clevis H and pins I the truss-rods can be so tightened that the outer batten will just clear the pillow E at all times. Otherwise to operate the gate, its free end will be lifted slightly, so as to clear the pillow, (the slotted eye R permitting,) and then the gate may be swung manually. By inclining the hinge-post slightly the gate will be caused to close automatically, as well known in this art. The parts are of any desired size, shape, and material best adapted for the uses to which the gate is to be put, and vertical pickets may be arranged on the panels A, if desired, it being only necessary that they should be pivoted thereto so that the whole gate may be folded slightly, as when adjusting the clevis on the pins.

In Fig. 1 I have shown the latch-post as partly broken away, the better to illustrate its construction. It is in two parts or members with a vertical space between, and into this space passes the beveled outer end Q′ of the latch Q, which slides between the members of the outer batten B′, both battens being double, so that the bars may pass between them. K is a horizontal shaft journaled through the outer batten and having a tongue R, engaging a notch S in the latch, and L L are handles or levers rising from this shaft at the sides of the gate, whereby said shaft may be rocked to operate the latch. Thus when it is desired to open the gate one of the levers is rocked and the latch is thereby withdrawn from between the members of the latch-post. The gate is then opened, and when it closes again the beveled face of the latch engages the latch-post and passes over the same into the space between its members to relock the gate closed. The means I employ for throwing the latch forward consist of a short arm M, depending from the shaft K and connected with the truss-rods D by a link N.

With the above construction, as the latch

is moved to free the outer end of the gate, the arm M draws on the link N and shortens the truss-rods D, thereby simultaneously lifting the outer end of the gate off the pillow, so as to prepare it for swinging, and storing power to reshoot the bolt or latch after the lever L is released. As the gate opens, its free end rises slightly, by reason of the fact that the eye E′ is in rear of the hinge-line, and hence the gate will close automatically. In the same manner, if the gate is adjusted to rest normally on the pillow, when the gate closes the outer batten would strike the side of the pillow were it not for the fact that as the beveled end of the catch engages the latch-post and the latch recedes the arm M and link N shorten the truss-rods and lift the free end of the gate, so as to permit it to fall onto the pillow, as will be clear. Of course, if the clevis H is adjusted so that the pillow is not used for this purpose, the slight raising of the free end of the gate in closing will have no effect; but it will also do no harm. In case any of the pivots *a* stick (as by swelling of the wooden members on the bolts) the slotted eye R will permit the gate entire to cant in its hinges, as is necessary to effect the above operation.

While I have described an operative gate and given its preferred construction, I do not wish to be limited to the precise construction set forth, as various changes in the details may be made without departing from the spirit of my invention. It will be at once obvious that the invention is applicable to all large or heavy doors—such as are used in factories, barns, and shops—and hence the word "gates" herein should be considered as including doors, as well as gates, strictly speaking.

In Fig. 4 I have shown one slight modification of which my invention is susceptible. The latch *q* is in this case pivoted at *q′* between upright strips *q″* or in any other suitable manner to the body of the gate, instead of sliding, as it does in the other views, and the tongue *r*, instead of engaging a notch S in the latch, rides under it, so as to raise it when the levers L are borne to the rear. The outer end of the latch is in this case beveled underneath, as seen at *q‴*, so as to ride over a catch on the latch-post and have a vertical movement instead of a horizontal, or the catch may be beveled and the latch plain, as will be understood. Other corresponding equivalents may be used throughout the structure, and parts of the whole may be employed without other parts so long as the manufacturer keeps within the bounds of the claims. I should have said, perhaps, that the ends of the pillow E are preferably beveled off, as seen at *e* in dotted line in Fig. 2, in order to allow the outer batten B′ to ride over the same more easily.

What is claimed as new is—

1. In a gate, a latch-post having a pillow whose ends are beveled, a hinge-post, and a folding gate hinged thereto, combined with a truss-rod linked to the upper end of the hinge-post in rear of the hinge-line and connected to the free end of the gate, and means for deflecting this truss-rod from a straight line, as and for the purpose set forth.

2. In a gate, a latch-post having a pillow, a hinge-post, a gate hinged thereto, and a bevel-faced latch on the gate engaging said latch-post, combined with a truss-rod linked to the upper end of the hinge-post and connected to the free end of the gate, connections between said latch and truss-rod for locking the latch, a clevis on the truss-rod, and pins on the gate, with which said clevis adjustably engages, substantially as described.

3. In a gate, a double-membered latch-post, a hinge-post, a folding gate hinged thereto, a truss-rod in two members connected to the lower outer corner of the gate, passing up alongside its panels, and engaging an eye at the upper end of the hinge-post, and means for adjusting the distance between the ends of this truss-rod, combined with the latch having a double-beveled face adapted to engage between said members of the latch-post, and connections between the truss-rod and latch, whereby the tension of the former normally shoots the latter, as and for the purpose set forth.

4. In a gate, a latch-post, a hinge-post, a folding gate hinged thereto, and a truss-rod linked to the upper end of the hinge-post and connected to the free end of the gate, combined with a latch on the gate adapted to engage the latch-post, connections between truss-rod and latch for automatically shooting the latter, and means for deflecting the truss-rod independently of said connections, substantially as described.

5. In a gate, a double latch-post, a hinge-post, and a gate comprising double inner battens hinged to the hinge-post, double outer battens, and panels pivotally connecting said battens, combined with a latch sliding between the outer battens and adapted to pass between the members of the latch-post, a rock-shaft journaled through the gate, operating-levers on the ends of said shaft, a tongue also on said shaft engaging a notch in the latch, and means for throwing the latch forward by the weight of the gate, substantially as described.

6. In a gate, a double latch-post, a hinge-post, a folding gate hinged thereto, and a truss-rod supporting the outer end of the gate, combined with a latch moving through the outer batten of the gate, a rock-shaft journaled through said batten and having operating-levers, a tongue on said shaft engaging a notch in the latch, an arm on said shaft, and a link connecting the arm with the truss-rod, whereby the latch is normally thrown forward by the weight of the gate, substantially as described.

7. In a gate, a latch-post, a hinge-post, a

folding gate hinged thereto, a truss-rod supporting the outer end of the gate, a pillow on the latch-post on which said outer end rests, and means for shortening the distance between the ends of said truss-rod, combined with a latch moving through the outer batten, a rock-shaft for operating said latch, an arm on said shaft, and a link connecting the arm with the truss-rod, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM CHAMBERS.

Witnesses:
J. W. CHAMBERS,
A. P. BLAIR.