

(Model.)

T. C. CHAPMAN.
GATE LATCH.

No. 420,142.

Patented Jan. 28, 1890.

Fig. 1.

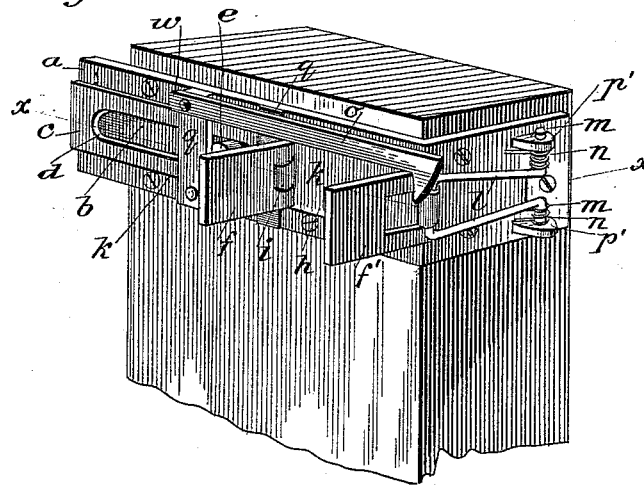


Fig. 2.

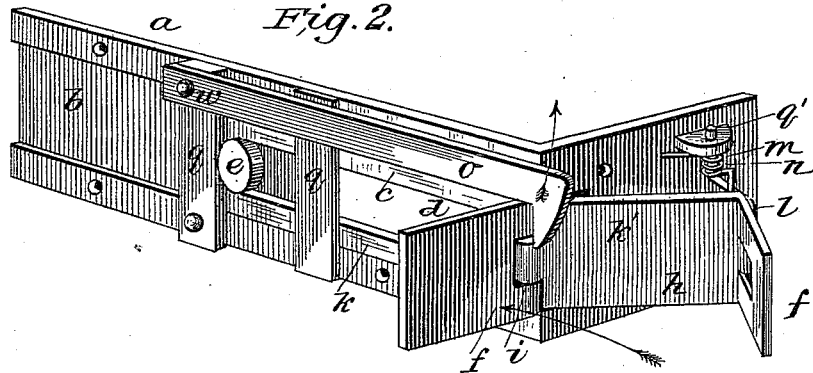
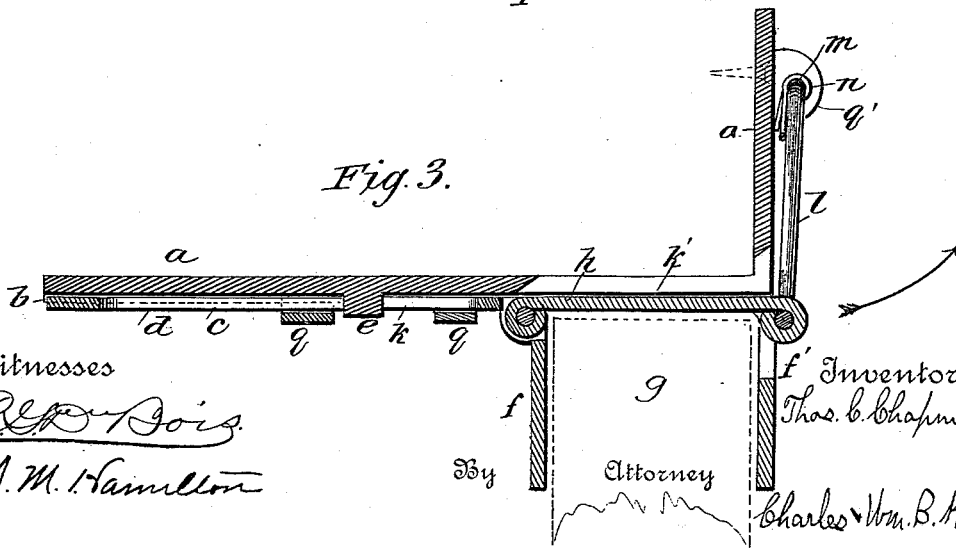


Fig. 3.



Witnesses

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GATE-LATCH.

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Application filed August 6, 1889. Serial No. 319,908. (Model.)

To all whom it may concern:

Be it known that I, THOMAS C. CHAPMAN, a citizen of the United States of America, residing at Warsaw, in the county of Benton and State of Missouri, have invented certain new and useful Improvements in Gate-Latches, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a new latch for doors, gates, &c.

The latches heretofore commonly used have frequently become inoperative because of the sagging or shrinkage of the gate or door, which would draw the latch away from the post, so that it would not engage the plate.

The object of my invention is to overcome this particular defect, and also to provide a latch that will hold the gate closed without having any part of it attached to the gate itself, and which will also serve as a buffer for the gate.

A further object of my invention is to provide a cheap, strong, and durable latch which will make the gate operate with greater facility.

With these ends in view my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a perspective view of my complete invention when the latch is in closed adjustment; Fig. 2, a perspective view of the latch when open and ready to receive the gate; Fig. 3, a sectional plan through line *x x* in Fig. 1.

The reference-letter *a* denotes an angular metallic plate by means of which my device is attached to a gate-post. This plate is provided with a horizontal recess *b*, within which fits and slides the latch *c*. This latch is composed of two hinged sections, a rear section *k* and front section *k'*. The rear section is provided with a longitudinal closed slot *d*, through which projects a stop *e* to limit the forward and backward throw of the latch. A pair of open jaws *f f* project from the forward end of the latch, and are so arranged as to receive the end of the gate *g* in the closing operation. The outer jaw *f'* is rigidly secured to the section *h*, which forms a part

of the sliding latch, and the inner end of this section is hinged at *i* to the forward end of the rear section *k* of the latch. An arm *l* is hinged to the front face of the plate by means of the trunnions *m*. This arm is provided with a spring *n* and is hinged to the front end of the outer section *k'*, said spring having a constant tendency to throw the arm forward to the position shown in Fig. 2 whenever the latch is released from the locking-catch *o*. The trunnions *m* are held in staples *p'*, and the spiral spring *n* is wound around them.

The rear section *k* of the latch is retained in place by the guides *q*, and the recess *b* allows the latch to be drawn outward and inward, so that there is no frictional resistance as it is thrown forward by the spring-arm *l*.

The rear end *w* of the catch *o* is pivoted to the plate in any convenient manner, and the catch is so arranged as to drop down by gravity or by the force of a spring over the front jaw of the latch to hold the latter, and hence the gate, in closed position.

The preferred manner of constructing my device having been set forth, I will now proceed to describe its operation. Upon releasing the catch *o* the tensile force of the spring *n* throws the arm *l*, and hence the sliding latch, forward to the position shown in Fig. 2. In this forward movement the rear wall of the slot *d* is so located as to come in contact with the lug *e* at such a point as will bring the hinge *i* over the outer end of the recess *b*, and the catch will be drawn down into the recess, as seen in Fig. 3. When the jaws are being thrown open to release the gate, the force of the spring will assist in swinging the gate open, although the main object of this spring is to draw the outer jaw back and hold it out of the way of the gate when the latter is swung to. In the closing operation the gate passes the outer jaw and strikes the inner jaw *f* and carries the latch and jaws with it. The tension of the spring *n* resists the pressure of the gate, and when the latter is slammed acts as a cushion to relieve the sudden jar. The closing movement of the latch is limited by having the outer wall of the slot come in contact with the stop *e*, which holds the latch within the recess. The moment this inner jaw strikes this stop the outer

jaw is drawn in flush with the face of the gate-post, and in so doing lifts the locking-catch *c*, which drops down over its upper edge and holds the slide, and hence the gate, in closed adjustment. It will be observed that as these jaws are open and extend forward a slight distance the shrinkage or sagging of the gate will not affect its position, while the spring-arm *l* upon the front of the gate-post assists in the opening operation.

It is evident that many slight changes which might suggest themselves to a skilled mechanic could be resorted to without departing from the spirit and scope of my invention. Hence I do not limit myself to the precise construction herein shown and described; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a gate-latch, a sliding section having an abutment against which the gate-stile strikes to force back said sliding section, a hinged section having a projecting portion by means of which it is thrown out of the path of the gate when the same is opened, and a suitable catch for retaining said sections in place, substantially as described.

2. In a lock for gates and doors, the combination of a sliding latch composed of two sections hinged together and provided with open jaws, a spring-arm having its free end hinged to the forward end of the outer section, and a catch for engaging the latch when the gate is closed, in the manner and for the purpose substantially as described.

3. In a gate-latch, the combination of an angular plate secured on the gate-post, a sliding section traveling in said angular plate, a stop for limiting the movement of said section, a jaw on the outer end of said section, a hinged section arranged to swing around the angle of said plate, a spring-actuated arm pivoted to said plate and also to said hinged section, and a hinged catch arranged to drop over said jaws, as and for the purpose described.

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

THOMAS C. CHAPMAN.

Witnesses:

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S. C. STEVENSON.