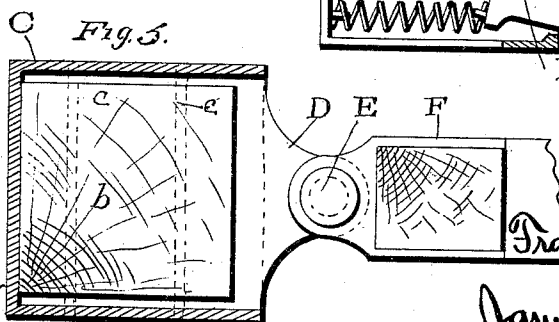
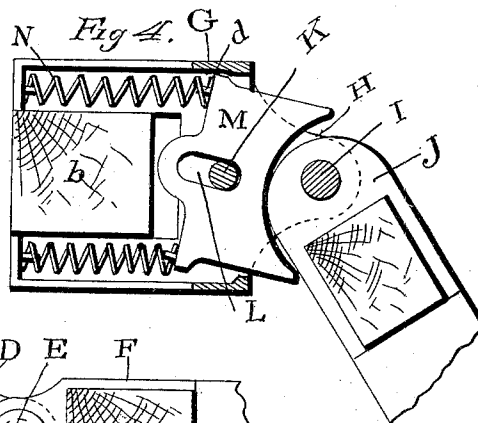
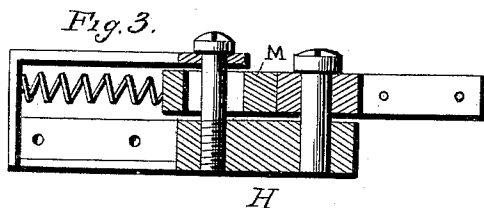
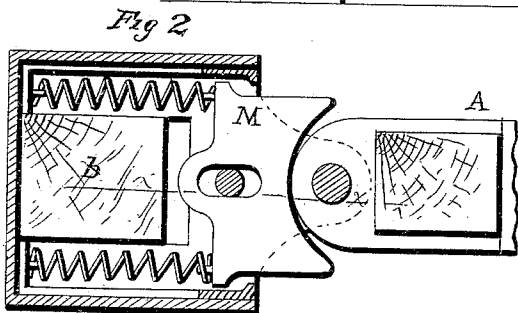
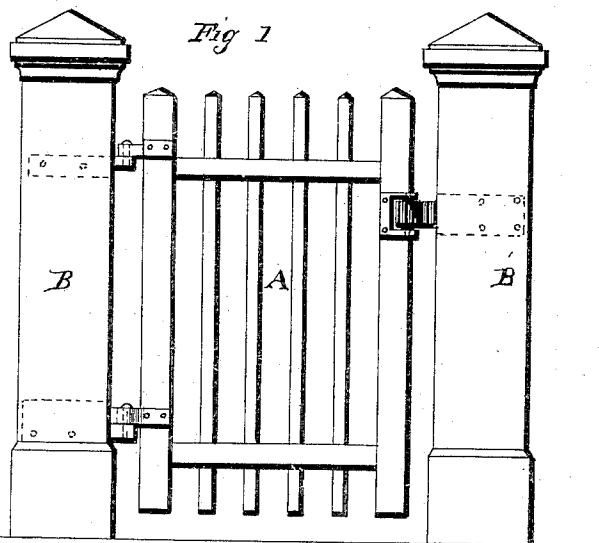


(No Model.)

F. RUGE.
GATE HINGE.

No. 448,456.

Patented Mar. 17, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK RUGE, OF WOONSOCKET, RHODE ISLAND.

GATE-HINGE.

SPECIFICATION forming part of Letters Patent No. 448,456, dated March 17, 1891.

Application filed August 4, 1890. Serial No. 360,876. (No model.)

To all whom it may concern:

Be it known that I, FRANK RUGE, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Automatic Gate Hinges and Catches; and I do 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.

My invention relates to improvements in gate-hinges, and the novelty will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a front elevation of a gate and gate-posts embodying my invention. Fig. 2 is a detail horizontal sectional view of the box containing the concave spring-actuated cam, the said cam, its retraction-springs, and a portion of the gate-frame being illustrated in top plan. Fig. 3 is a vertical longitudinal sectional view taken on the line *xx* of Fig. 2, the central post being removed. Fig. 4 is a view similar to Fig. 2, with the gate illustrated as open, and Fig. 5 is a horizontal sectional view of the post and the frame or casing of the upper hinge, the pivot portion thereof being illustrated in top plan.

In carrying out my invention it is obvious that the several elements may be constructed of any suitable material and in a manner best conducent to a perfect operation thereof.

Referring to the accompanying drawings by letter, A indicates a gate, which may be of any ordinary or approved construction.

B B' indicate, respectively, the hinge and catch carrying posts. These posts B B' are respectively composed of an interior solid post *b*, as better illustrated in the sectional views, to which the castings carrying the hinge and catch mechanisms are attached, and an outer, preferably rectangular, finish or covering, as illustrated, to hide the mechanism from view and to protect it from moisture, dust, &c.

The rectangular frame or boxing C of the upper hinge surrounds the interior post *b*, and is attached thereto and supported at a suitable elevation by means of transverse

bolts *c*, as better shown in Fig. 5. This boxing C is provided on its side adjacent to the gate with a platform projection D, which carries adjacent to its outer end an integral upright pintle E, on which the gate-section F of hinge is mounted.

I do not desire to limit myself to the form of upper hinge described, as I may employ any form adapted to operate in conjunction with my improvements, and in some instances I may place a gate-closing hinge at the top, as well as at the bottom of gate, but I prefer to use at the top of gate a hinge such as described, as the same is especially adapted to operate in conjunction with my improvements.

The casting G of the lower gate-closing hinge is provided in its bottom and top plates, as better illustrated in Fig. 4, with a rectangular opening to receive the interior post, to which it is attached at a suitable elevation by transverse bolts. This casting G is also provided with a platform projection H on its inner side, carrying a pintle I to receive the hinge-section J of the gate, which is rounded at its end in a convex manner to operate in combination with the concave cam presently to be described.

Bearing in a seat in the top and bottom plates of the casting G is a guide-post K, which passes through a slot L in the concave cam M and serves to guide and limit the movement of the same, and at the same time performs the function of a pivot therefor. This cam M, which has its outer edge concave, as illustrated, is provided on its inner edge adjacent to its sides with eye-loops *d*, which receive one end of retracting-springs N, the other ends of which are suitably attached to the rear wall of the boxing, as illustrated. By this construction it will be seen that when the gate is opened the spring on the side adjacent to the direction of the movement of gate is depressed, while the one on the opposite side is expanded. Now when the gate is released by the person passing through, the expanded spring will retract, which movement will swing the cam around and cause the opposite corner thereof to bear against the side of the gate-section of hinge and thus close the gate.

It is obvious from the foregoing description of my improved automatic hinge that the same may be mounted upon a post of any ordinary and approved construction, and
5 I therefore do not desire to confine myself to the use of the construction described, although such construction is preferable.

I do not desire to be understood as limiting myself to the precise construction shown
10 and described, as it is obvious that I may make such changes and modifications in the several elements as fall within the scope of my invention.

Having described my invention, what I
15 claim is—

1. In a gate-hinge, the combination, with a pivoted swinging section having its inner end rounded, as described, of a pivotally-mounted spring-actuated cam provided with a concave
20 edge having shoulders extending beyond the pivot-point of the swinging section and adapted to impinge against said section, substantially as and for the purpose described.

2. In a gate-hinge, the combination, with a
25 pivoted swinging section having its inner end rounded in a convex manner, of a cam provided with a longitudinal slot in its body to receive a pivot and guide-post and having its

front edge concaved to receive and bear upon the rounded end of the swinging section, and
30 retracting-springs having one end attached to the inner edge of said cam and the other end to the inner wall of a casing, all adapted to operate substantially as specified.

3. The combination, with the post-box or
35 casting provided with the rectangular opening for the passage of the interior post and having the platform projection on its inner side carrying an upright pintle, the guide-post bearing in the top and bottom of said
40 box adapted to take into the guide-slot in the body of the cam, and the said cam provided on its inner edge with retracting-springs and having its outer edge concaved, of the swinging section suitably attached to the gate and
45 pivotally mounted upon the pintle of the post-section, having its inner end rounded in a convex manner, substantially as and for the purpose described.

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

FRANK RUGE.

Witnesses:

GEO. W. SPAULDING,
SAML. P. COOK.