

No. 816,527.

PATENTED MAR. 27. 1906.

S. H. BERREY.

HINGE FOR GATES.

APPLICATION FILED APR. 21, 1904.

Fig. 1.

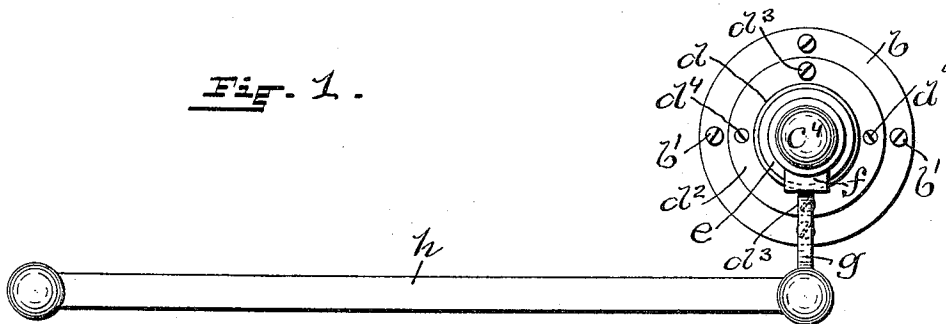


Fig. 2.

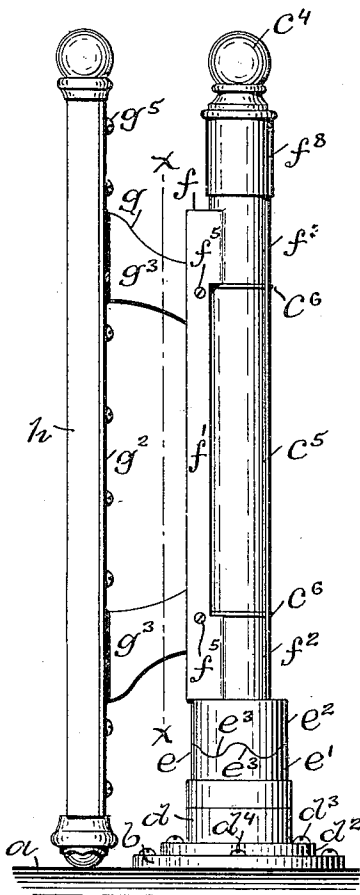


Fig. 3.

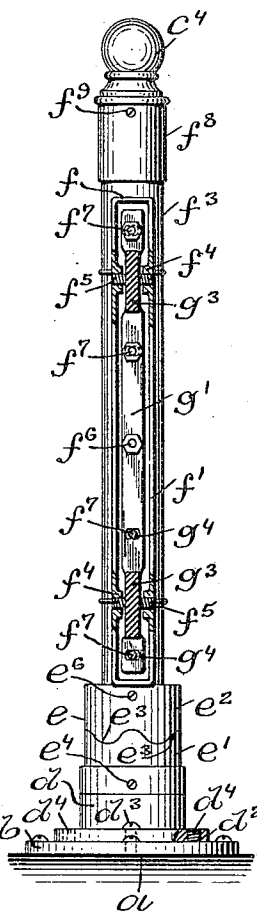
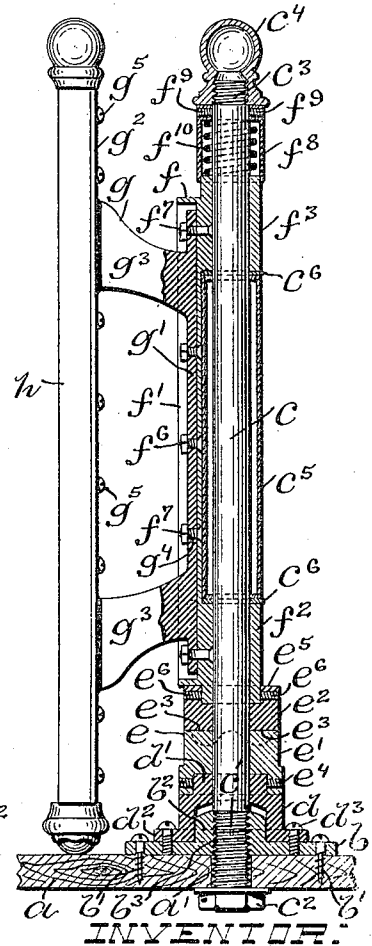


Fig. 7.



WITNESSES:

Chas. M. Mumford.
Ada E. Hagerly.

Samuel H. Berrey
 & Joseph A. Miller & Co.
 ATTORNEYS:

UNITED STATES PATENT OFFICE.

SAMUEL H. BERREY, OF PROVIDENCE, RHODE ISLAND.

HINGE FOR GATES.

No. 816,527.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed April 21, 1904. Serial No. 204,204.

To all whom it may concern:

Be it known that I, SAMUEL H. BERREY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Hinges for Gates, of which the following is a specification.

This invention has reference to an improvement in hinges for gates, and more particularly to an improvement in the hinges on gates used to close the openings in chancel-rails which separate the chancel from the body of the church.

Chancel-gates are heavily constructed of metal, such as bronze or brass, and if the chancel-rail is of onyx a corresponding piece is secured on the top rail of the gate. As heretofore constructed the weight of the gate was detrimental, causing the gate to sag and become out of alinement with the chancel-rail.

The object of my invention is to improve the construction of a chancel-gate hinge and its support whereby the gate is adjustable vertically, laterally, and pivotally on the support or hinge to bring the gate into alinement with the chancel-rail when setting up the gate or when the gate has become out of alinement from sagging or other causes.

My invention consists in the peculiar and novel construction of a chancel-gate hinge comprising a two-part hinge member consisting of a frame with arms secured to the gate at right angles and pivotally secured to a box-frame having sleeves forming the knuckles of the hinge through which the vertical rod forming the pintle of the hinge extends, means for pivotally adjusting the two-part hinge member and a support for said member, said support being constructed to have a base-plate secured to the floor, a vertical steel rod secured to the base-plate, a flanged sleeve on the base-plate having means for vertical adjustment, an adjustable cam mechanism intermediate the flanged sleeve and the lower hinge-knuckle for raising and lowering the gate in the opening and closing of the same and for holding the gate in the open or closed position, a coiled spring intermediate the upper hinge-knuckle, and a cap secured to the upper end of the vertical rod to exert a spring tension on the cam mechanism, and other details of construction, as will be more fully set forth hereinafter.

Figure 1 is a top view of my improved gate-support, showing the hinge secured at right angles to the gate. Fig. 2 is a vertical

view of the gate and support looking at the hinge end of the gate. Fig. 3 is a vertical sectional view taken on line X X of Fig. 2 through the hinge of the gate, showing the mechanism for pivotally adjusting the outer end of the gate in a vertical direction; and Fig. 4 is a vertical sectional view taken lengthwise through the gate-support, showing the construction of the support.

In the drawings, *a* indicates the floor; *b*, the base-plate; *c*, the vertical steel rod rigidly secured to the base-plate; *d*, the flanged sleeve for the vertical adjustment; *e*, the cam mechanism; *f* and *g*, the two parts of one of the hinge members, and *h* the gate. The base-plate *b* is secured to the floor by the screws *b'* *b'* and has the upwardly-extending boss *b²*, in which is the screw-threaded hole *b³*. The vertical steel rod *c* is rigidly secured to the base-plate *b* by screwing the lower screw-threaded end *c'* of the rod through the screw-threaded hole *b³* in the base-plate. In the preferred form to more firmly secure the rod *c* to the floor I extend the lower end *c'* of the rod through the opening *a'* in the floor and secure it to the floor by the nut *c²*, bearing on the under side of the floor, as shown in Fig. 4. The cap *c⁴* is secured by screwing it on the upper screw-threaded end *c³* of the rod *c*. The cylindrical spring-casing *f⁸* is secured to the upper end of the vertical rod *c* by the set-screws *f⁹* *f⁹* and incloses the coiled spring *f¹⁰*, placed intermediate the upper end of the casing and the end of the sleeve *f³*, forming the upper knuckle of the hinge. The sleeve *d* on the vertical rod *c* has the contracted upper end *d'* and the flange *d²*. It is adjustably secured to the base-plate *b* by the screws *d³* *d³* passing through the flange into the base-plate and the screws *d⁴* *d⁴* in the flange bearing on the base-plate. The cam mechanism *e* on the vertical rod *c* consists of the lower cam-sleeve *e'* and the upper cam-sleeve *e²*, the adjacent ends of which are formed into the coinciding cam-faces *e³* *e³*. The lower cam-sleeve *e'* is adjustably secured to the contracted end *d'* of the sleeve *d* by the set-screws *e⁴* *e⁴*, and the upper cam-sleeve *e²* has the rim *e⁵*, in which are the set-screws *e⁶* *e⁶*.

The part *f* of the hinge is constructed in the form of an elongated shallow box *f'*, connecting the lower sleeve *f²* with the upper sleeve *f³*. These sleeves form the knuckles of the hinge through which the vertical rod *c*, forming the pintle, extends. The lower sleeve *f²*

extends downward into the rim e^5 of the cam-sleeve e^2 , where it is secured by the set-screws e^6 e^6 . In the sides of the elongated box f' , adjacent the ends, are the bosses f^4 f^4 , in which
 5 are the adjusting-screws f^5 f^5 , as shown in Fig. 3. The bolt f^6 and the fastening-bolts f^7 f^7 extend through the bottom of the box f' .

The part g of the hinge consists of the narrow vertical plates g' and g^2 , connected together by the arms g^3 g^3 . The plate g' is pivotally secured in the elongated box f' by the pivot-bolt f^6 and adjustably secured by the fastening-bolts f^7 f^7 through the slots g^4 g^4 in the plate g' , as shown in Fig. 3. The plate g^2
 10 is secured to the side of the gate near the end by the screws g^5 g^5 , bringing the hinge member formed by the parts f and g at right angles to the gate, which may be of any design or construction desired.

20 In the preferred form I inclose the exposed portion of the vertical rod c between the sleeves forming the knuckles of the hinge with the tube c^3 , which is held in position on the rod c by the washers c^6 c^6 , thereby giving
 25 a symmetrical appearance to the support for the gate.

The operations for adjusting the gate vertically, laterally, and pivotally are as follows: The vertical adjustment is secured by
 30 loosening the screws d^3 d^3 and tightening the screws d^4 d^4 . This gives an upward movement to the flanged sleeve d on the vertical rod c , and with it the cam mechanism e , the hinge member formed by the parts f and g , and
 35 the gate h . The lateral adjustment is secured by loosening the screws e^4 e^4 in the cam mechanism e and turning the cam mechanism on the vertical rod c to bring the gate into the position required, and the gate is adjusted
 40 pivotally to raise or lower the outer end of the gate by loosening the nuts on the fastening-bolts f^7 f^7 and swinging the part g of the hinge on the pivot-bolt f^6 by the adjusting-screws
 45 f^5 f^5 in the sides of the elongated box f' to bring the outer end of the gate into the position required.

In the operation of opening and closing the gate the cam-face on the upper cam-sleeve e^2 , operating with the gate, rides up on
 50 the cam-face of the lower fixed cam-sleeve e' against the tension of the coiled spring f^{10} in the spring-casing f^8 , raising the gate from the floor. As shown in the drawings, these cam-faces are constructed to have a quarter-
 55 turn movement to raise and lower the gate and normally hold the gate either in the closed or open position by the tension of the spring f^{10} .

It is evident that the elongated box f' , in which is the adjusting mechanism, could be
 60 closed by a cover, if desired, and that the cam-faces e^3 e^3 could be constructed to form a stop to limit the closed or open position of the gate without materially affecting the spirit
 65 of my invention.

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

1. In a hinge, the combination with a movable member provided with bearing-knuckles
 70 and means of attachment to a gate or door, of a pivotal support therefor comprising in its construction a base-plate and mechanism for adjusting the gate vertically on the support consisting of a flanged sleeve intermediate
 75 the base-plate and the movable member, and means for securing the flanged sleeve in the adjusted position, as described.

2. In a hinge, the combination with a movable member formed of two parts, one part of
 80 which is provided with bearing-knuckles and the other part of which is pivotally secured thereto, and means of attachment to a gate or door, of a pivotal support and mechanism for adjusting the gate vertically on the sup-
 85 port, as described.

3. In a hinge, the combination with a two-part movable member comprising a box member provided with knuckles, and a gate member pivotally and adjustably secured to
 90 the box member, and means of attachment to a gate or door, of a pivotal support therefor comprising in its construction a vertical rod, a base-plate, a cam-sleeve intermediate the base-plate and the movable member, and
 95 means for adjusting and securing the cam-sleeve on the vertical rod.

4. In a support for a hinge, the combination with a base-plate, a vertical rod rigidly secured to the base-plate, a flanged sleeve
 100 adjustably secured to the base-plate, and a cam-faced sleeve adjustably secured to the flanged sleeve, of two sleeves forming the hinge-knuckles surrounding the vertical rod, a cam-faced sleeve adjustably secured to the
 105 lower hinge-knuckle, a box member connecting the two hinge-knuckles and a frame rigidly secured to the gate and adjustably supported in the box member, as described.

In testimony whereof I have signed my
 110 name to this specification in the presence of two subscribing witnesses.

SAMUEL H. BERREY.

Witnesses:

ADA E. HAGERTY,
 J. A. MILLER, Jr.