D. Werner,

Lock Hinge.

No. 98,827. Patented Jan. 11. 1870.

Fig. 1

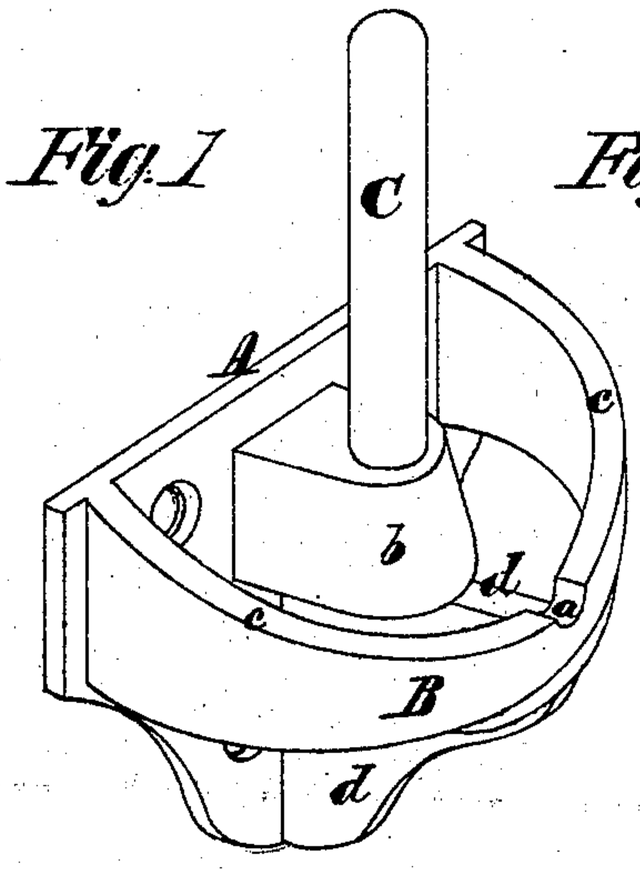


Fig. 2

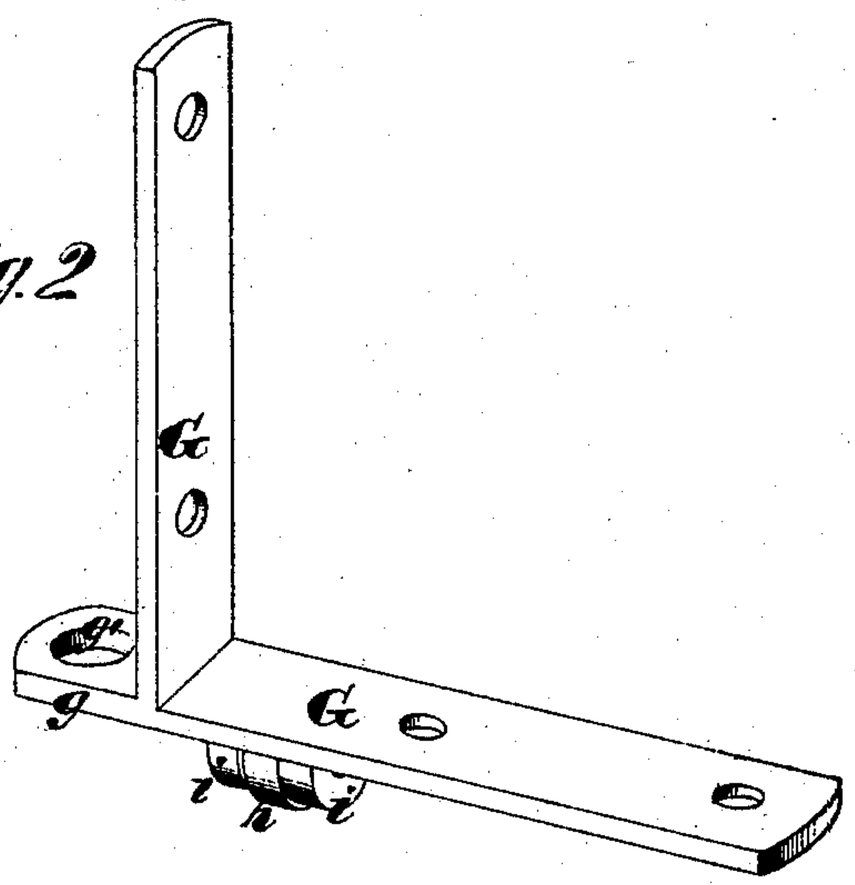


Fig. 3.

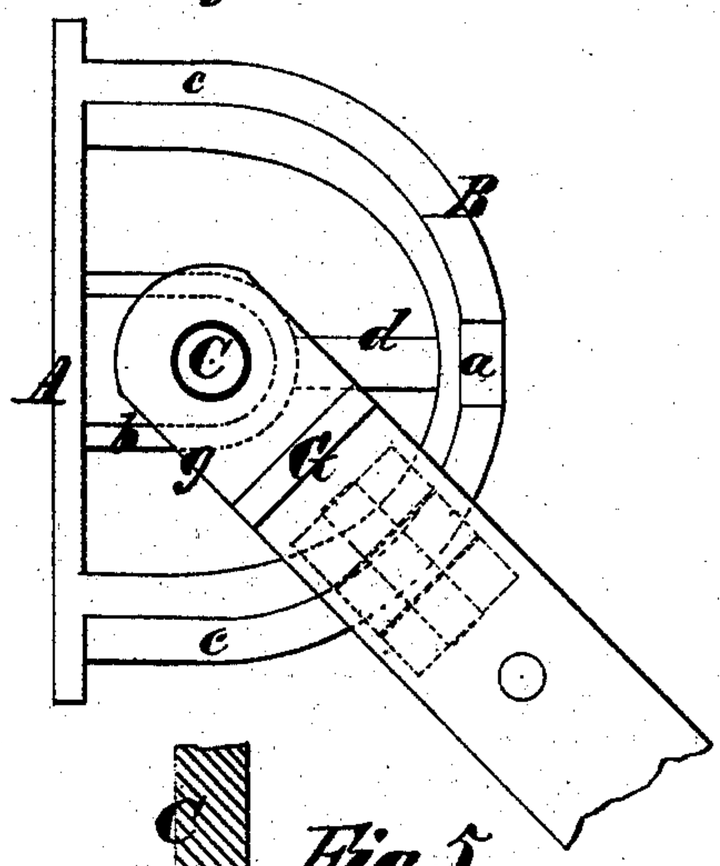


Fig. 4

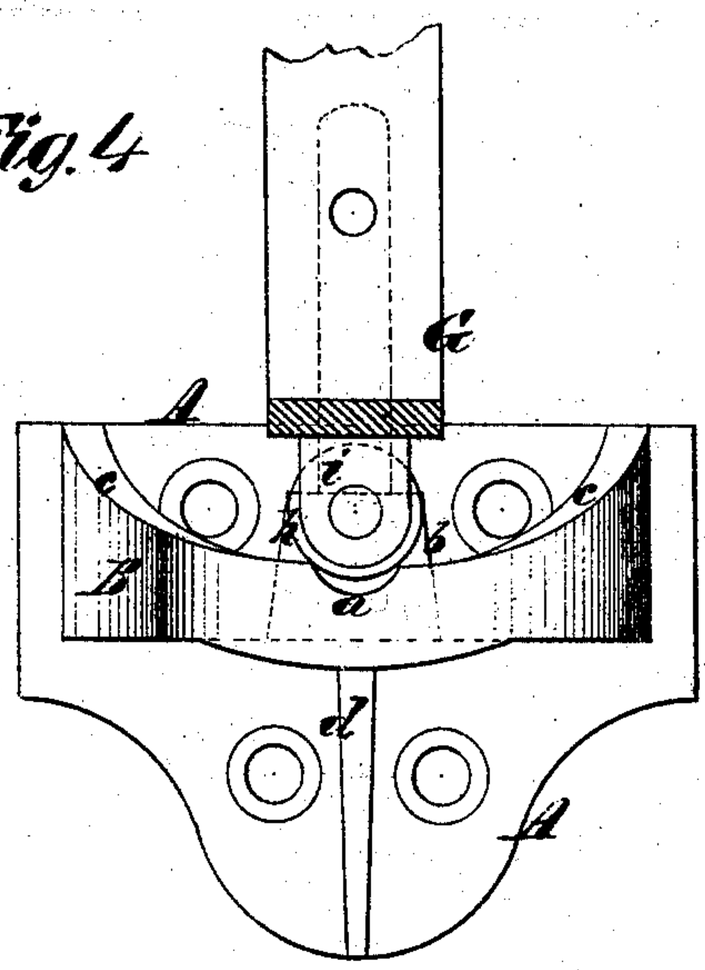
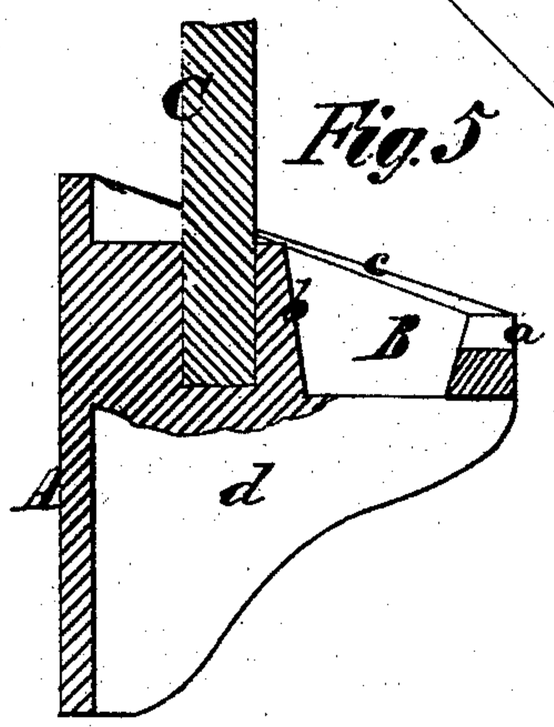


Fig. 5



Witnesses.
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J. T. Compton

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by his attys
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DANIEL WERNER, OF ST. LOUIS, MISSOURI.

Letters Patent No. 98,827, *dated January* 11, 1870.

IMPROVEMENT IN HINGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DANIEL WERNER, of St. Louis, in the county of St. Louis, and State of Missouri, have invented a new and improved Hinge; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the bracket or stationary part of the hinge.

Figure 2 is a perspective view of the angle or movable portion of the hinge.

Figure 3 is a top view of the hinge.

Figure 4 is a front view of the same.

Figure 5 is a vertical central section of the hinge.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to improvements on that class of hinges for "storm-doors," "summer-doors," and gates, which is so constructed that the door or gate to which it is applied is caused to rise bodily up an inclined plane, while being opened, and to descend, when in the act of closing, so that the weight of such door or gate will operate to keep it shut, and thus render unnecessary the use of springs or supplemental weights for this purpose.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

My improved hinge consists of two principal parts, to wit, a bracket or stationary portion, which is secured rigidly to the frame of the door, at or near the lower end of the door, and an angular portion, which is secured at the lower corner of the door, so as to swing with it.

The bracket-portion, shown clearly in figs. 1 and 5, consist of a flat plate, A, which is perforated, to receive screws through it, a semicircular rail, B, which is cast with the plate A, on one side of this plate, and which has its upper edge *c* inclined, to receive upon it a small anti-friction roller, *h*, on the bottom of the angle-iron G.

At the lowest point inclination of the edge *c*, a notch, *a* is formed, which serves as a stop for the said roller *h*, when the door is shut.

The semicircular rail B is supported and strengthened by a rib, *d*, cast with this rail, and also with the plate A, which rib also affords a support for a lug, *b*, into which a vertical wrought pin, C, is cast.

The lug *b* is cast upon the front side of the plate A, and upon the upper edge of the rib *b*, and affords a substantial support for the wrought-metal pin C, which latter is arranged in the vertical centre of the semicircular rail B, and receives the eye *g'*, which is made through the extension *g* of the angle-iron G, as shown in fig. 3.

The angle-portion G of the hinge consists of a stiff right-angular strap or knee, having a perforated horizontal extension, *g*, through which the pintle C passes when the door is hung.

One portion of this angle-iron is secured to the bottom edge of a door, and the other portion is secured to the vertical edge of the door.

Beneath the horizontal portion of the angle-iron G, lugs *i i* are suitably secured, between which is an anti-friction roller, *h*, which, when the door is hung, will roll upon the inclined edge *c* of the bracket-rail B.

It will be seen, from the above description, that I have a right and left hinge, which will cause the weight of the door to close the door, when opened either toward the right or left.

I also attach the door to the bracket or stationary portion, by means of a knee or right-angular strap, having an anti-friction roller applied beneath it, thereby affording a support for the door, and a much better and stronger attachment than is afforded by a simple plate screwed to the vertical edge of the door.

The angle-strap or knee serves as a brace, as well as a support, and one limb or arm of it strengthens the other.

It will also be seen that the open rail B is supported from being broken down by the weight of the door, by the rib *b*; also, that the widest position of this rail is in a vertical line with the strain which it is required to sustain; also, that obstructing objects cannot find lodgement upon its edge.

It will also be seen that the pintle C, which is subjected to the strain, and the shocks and concussions attending the opening and shutting of a door, is made of wrought-metal, cast into a strong lug, *b*, on the plate A.

I am aware that hinges, operating upon the general principle of mine, have been long known and used; but I am not aware that a hinge, possessing all the capabilities or advantages of mine, and constructed as above described, has ever before been known or used.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The bracket or stationary portion of the hinge, consisting of the following parts, to wit, a plate, A, a semicircular rail, B, with inclined edge C, in combination with the right-angled knee-piece G, which is constructed with the perforated offset *g*, and the anti-friction roller *h*, and central notch *a*; a rib, *d*, a lug, *b*, and a wrought-metal pintle C, all arranged and operating substantially as set forth.

2. The knee or right angle G, constructed with a perforated offset, *g*, and an anti-friction roller, *h*, the said knee being adapted to bear against the lower corner of the gate, door, or shutter, and to extend partly behind the door, shutter, or gate, substantially as and for the purposes described.

3. The combination of the knee-piece G with an open bracket-portion, when both of said parts are constructed as herein set forth.

DANIEL WERNER.

Witnesses:

HENRY KLAGES,

FRANK JUSTIN.