No. 641,553. Patented Jan. 16, 1900.

L. H. SHOLDER.

LOOSE JOINT SPRING HINGE.

(Application filed July 10, 1899.)

(No Model.)

Fig. 1.

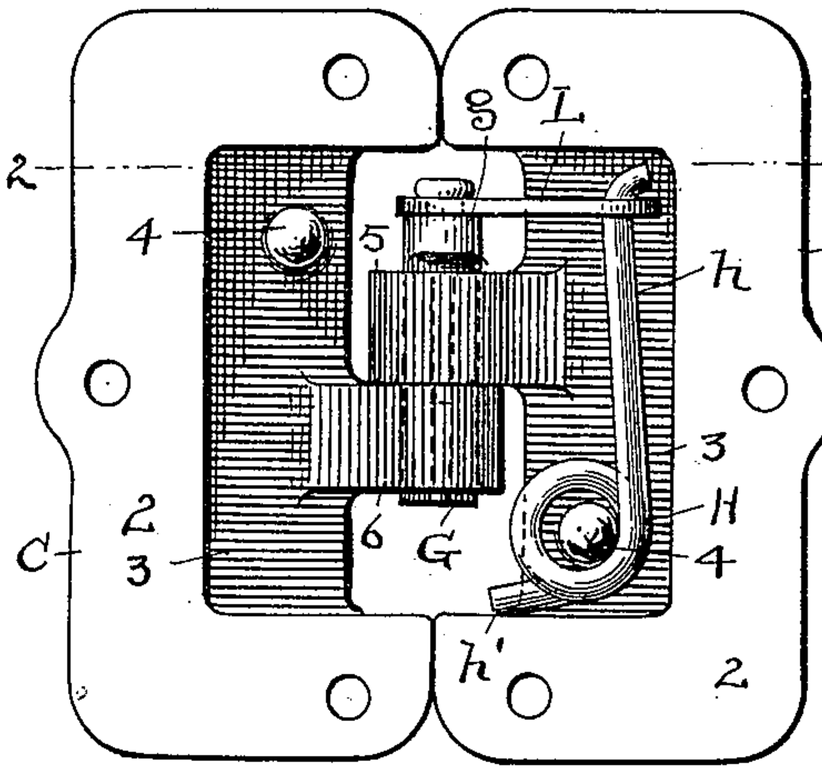


Fig. 2.

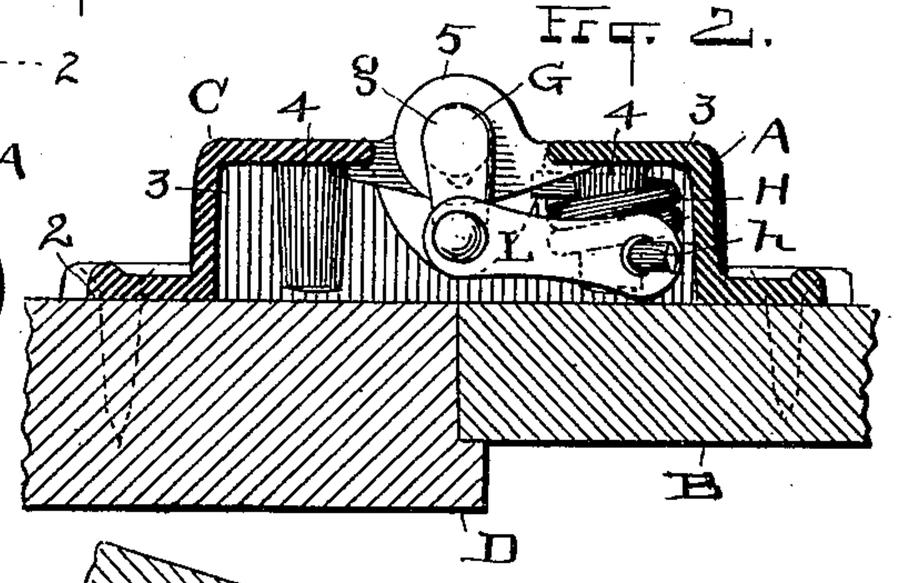


Fig. 3.

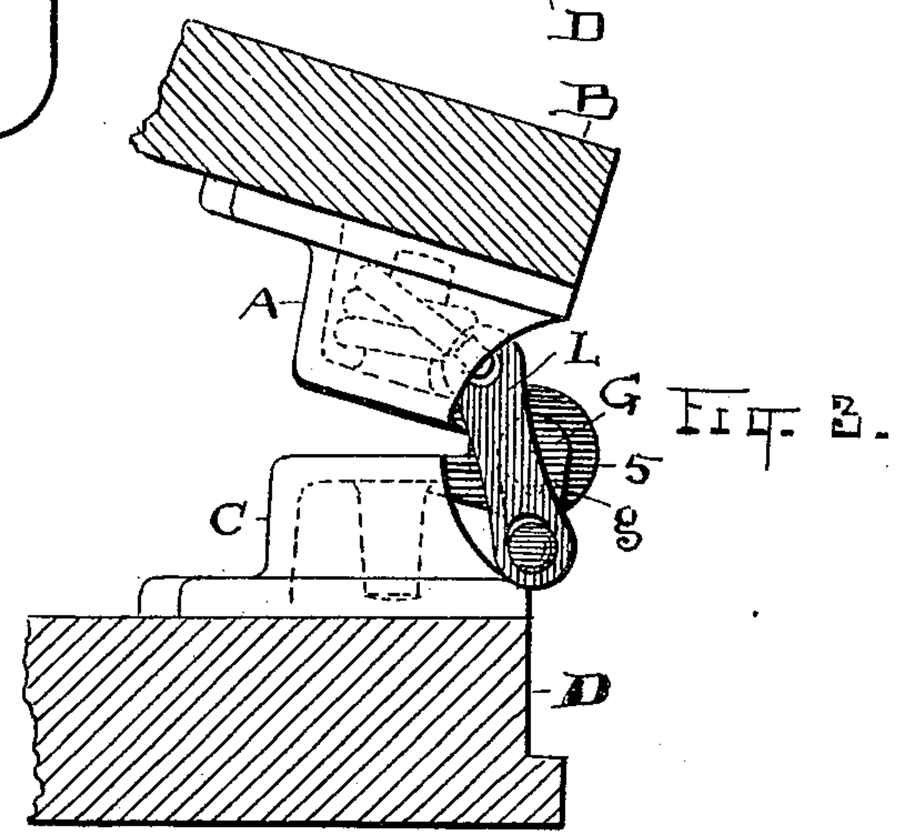


Fig. 4.

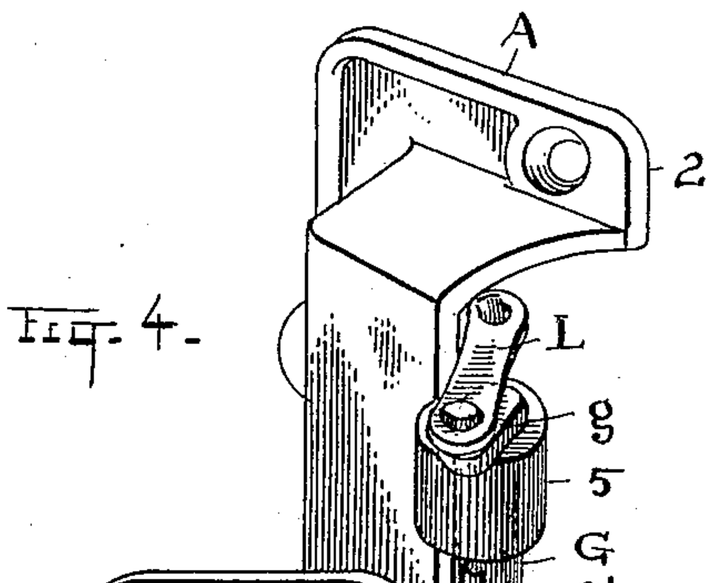


Fig. 5.

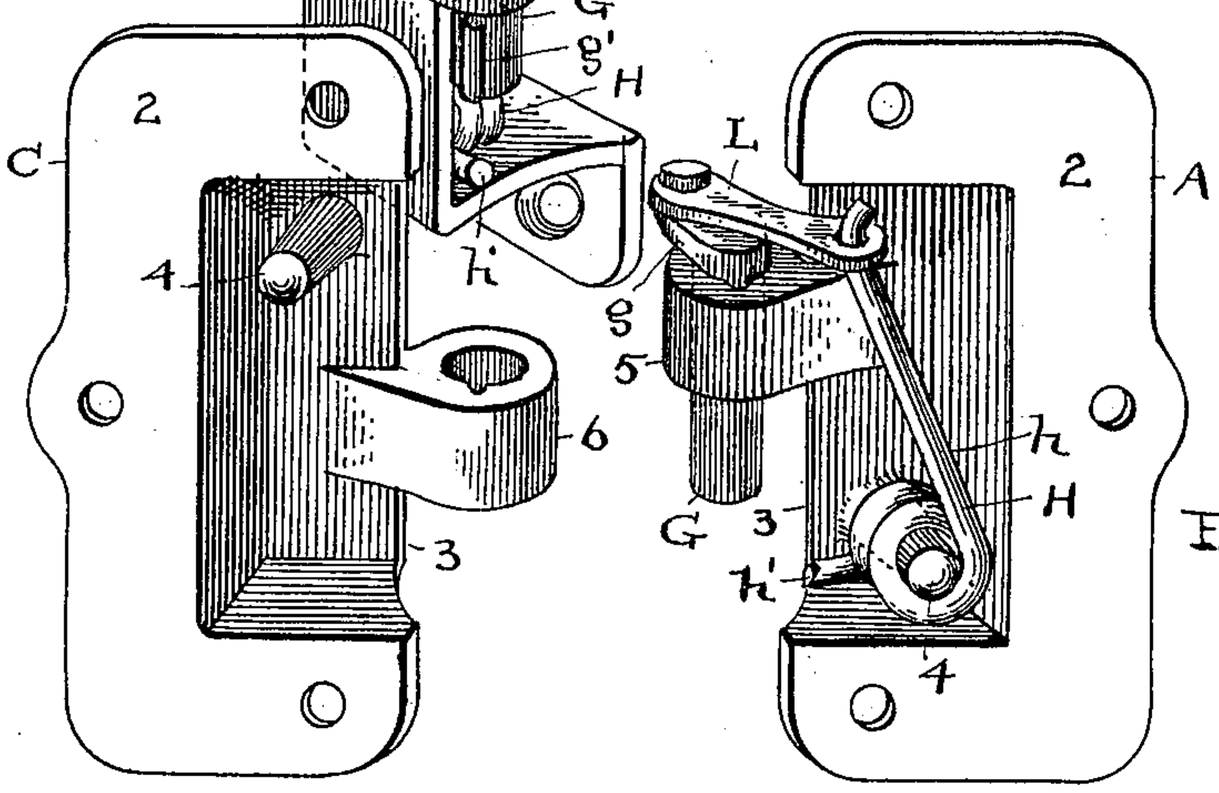
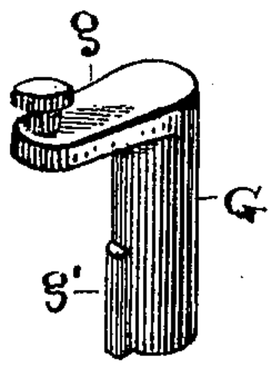


Fig. 6.



Attest

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LOUIS H. SHOLDER, OF CLEVELAND, OHIO.

LOOSE-JOINT SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 641,553, dated January 16, 1900.

Application filed July 10, 1899. Serial No. 723,286. (No model.)

To all whom it may concern:

Be it known that I, LOUIS H. SHOLDER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Loose-Joint Spring-Hinges; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to loose-joint spring-hinges; and the object of the invention is to provide what is known as a "loose-joint" hinge with a self-closing spring, which is so connected with one section thereof that the hinge may be separated, as by lifting off the door, and not disturb the operative relation and connection of the hinge, and whereby when the door is restored to place, as occurs in the taking off and putting back of screen-doors, the spring will be in position to act the same as if the hinge-sections had not been separated and the door removed, all substantially as shown and described, and particularly pointed out in the claims.

Illustrative of this invention, Figure 1 shows an elevation of the hinge looking at it from the inner side, which rests against the door and casing. Fig. 2 is a cross-section on line 2 2, Fig. 1, showing the crank, link, and spring connection of the hinge. Fig. 3 shows the hinge wide open, as occurs when a door is swung back against the wall, this view being in plan. Fig. 4 is a perspective elevation of the two sections of the hinge separated and as they may appear either when the door is being taken down or placed in position, the face of one section and the back of the other being shown. Fig. 5 is a face view of the upper section, shown in Fig. 4, which carries the spring and is designed to be attached to the door. Fig. 6 is a detail of the hinge crank-pin.

As already disclosed, this invention is an improvement in loose-joint hinges, by which I mean the class of hinges in which one joint is adapted to be lifted out of or away from the other while attached to the door and to be replaced in the same way, after the manner of the old-fashioned loose hinge common in the art many years ago. In its simplest form my invention involves the adaptation of a spring to such a hinge with the function of closing the door when it passes the half-way point in one direction and of opening it when it passes the half-way point in the opposite direction. To these ends the hinge is formed with two identical parts or sections, which are alike in every particular by preference, though not necessarily, and may when cast be cast in the same gate. Hence they are interchangeable and either may have the spring attachments placed thereon. In this instance, A is the upper section, carrying the said attachments and secured to the door B, and C is the lower section, designed to be fixed and to remain permanently on the door-casing D. Both sections alike have a flat facing 2 and a box-shaped portion 3, in which the operative parts of the hinge are located. Thus each section has a stud or pin 4 at one end within this box or housing 3, and projecting outward from the inner edge of each section is a short arm or stud, marked 5 on section A and 6 on section C, but alike on both and having a pin-hole adapted to receive the hinge-pin G. This pin is a separate member, with a crank *g* at its upper end and a spline or rib *g'* longitudinally on its lower portion to engage it with the lower section of the hinge, and is long enough to project through both arms, as shown. Hence when the door is swung and the upper section of the hinge turns with it the pin G is kept from rotating by spline *g'*, and this causes the desired action on the spring.

H is the spring, a spiral formed of wire and bent to rest over the pin 4 and having its short end *h'* resting against the wall of the box 3 and its long end or arm *h* connected by link L with the arm *g* of the crank-pin. When the parts are in relation as seen in Fig. 1, the end of arm *h* lies practically near the wall of the box 3; but when the hinge is full open it is drawn out from the wall, as seen in Fig. 5, and the section A is rotated to bring the arm *g* past the center to the rear, Fig. 4, so that the pin will remain in this position indefinitely and irremovably, at least by hand, thus making it safe to store away for the winter when the door has been removed. Then when the door is replaced the hinge and the spring are in working condition again, as before, and it is practically impossible to remove the door and not have the hinge in the right place; but

when thrown open the edge of link engages the edge of the hinge and forms a stop, thus leaving the parts as free for separation as if no spring were used.

What I claim is—

1. In loose-joint holdback spring-hinges of the variety substantially as shown, a hinge-section constructed to be attached to a door, and having an arm for the pintle, in combination with a pintle rotatable in said arm and a spring operatively connected with the upper part of said pintle and with said section, substantially as set forth.

2. A loose-joint holdback spring-hinge consisting of two interchangeable sections, a pintle fixed against rotation in one section and having the other rotatable thereon, a spring secured to the rotatable section at one end and connections between the top of said pintle and the opposite end of the spring, substantially as set forth.

3. In loose-joint holdback spring-hinges, a hinge-section having a perforated arm on its inner edge, a pintle in said arm having a lateral projection at its top, a spring in said section and a link connecting the spring with said projection, in combination with the opposite section of the hinge having an arm in which said pintle is locked against rotation, substantially as set forth.

Witness my hand to the foregoing specification this 6th day of July, 1899.

LOUIS H. SHOLDER.

Witnesses:
H. T. FISHER,
R. B. MOSER.