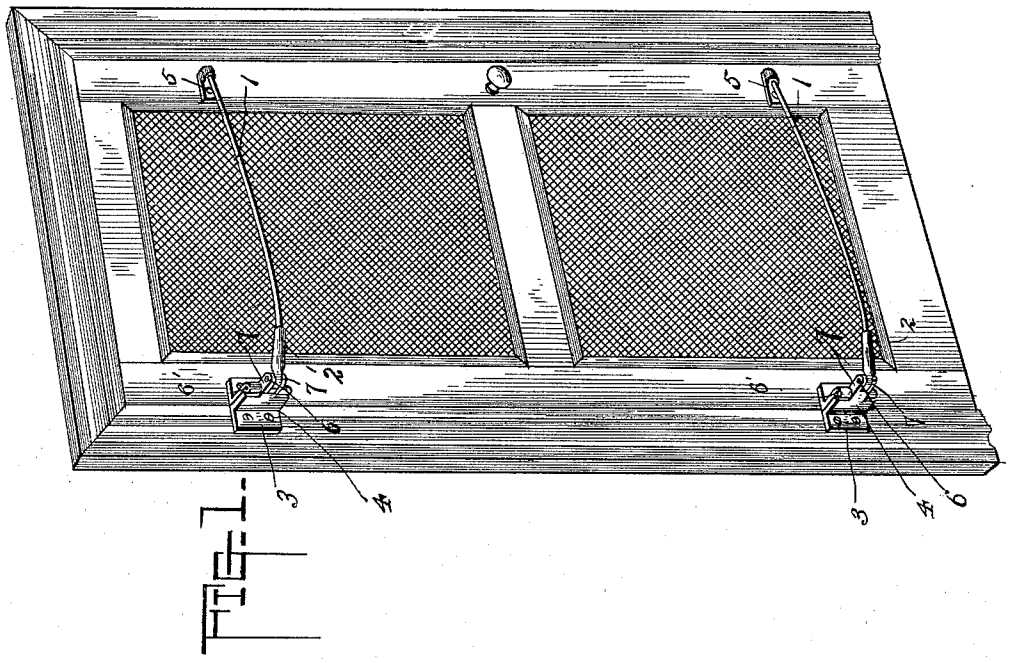
No. 637,852. Patented Nov. 28, 1899.

G. W. CHANDLER.

SPRING HINGE.

(Application filed Aug. 13, 1898.)

(No Model.) 2 Sheets—Sheet 1.



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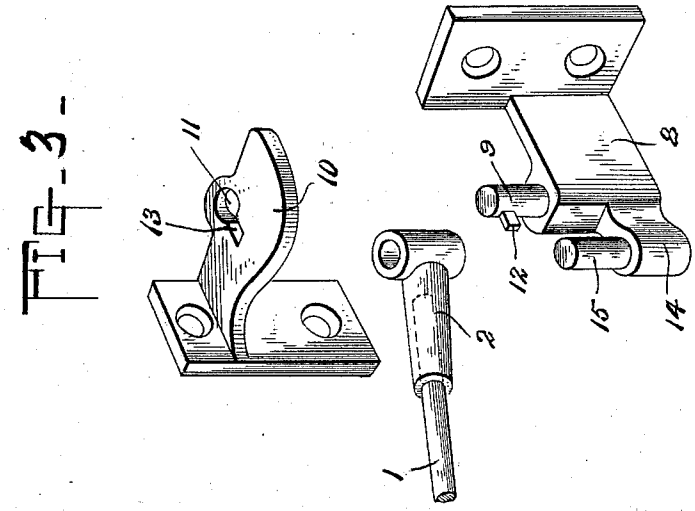
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FIG. 3.



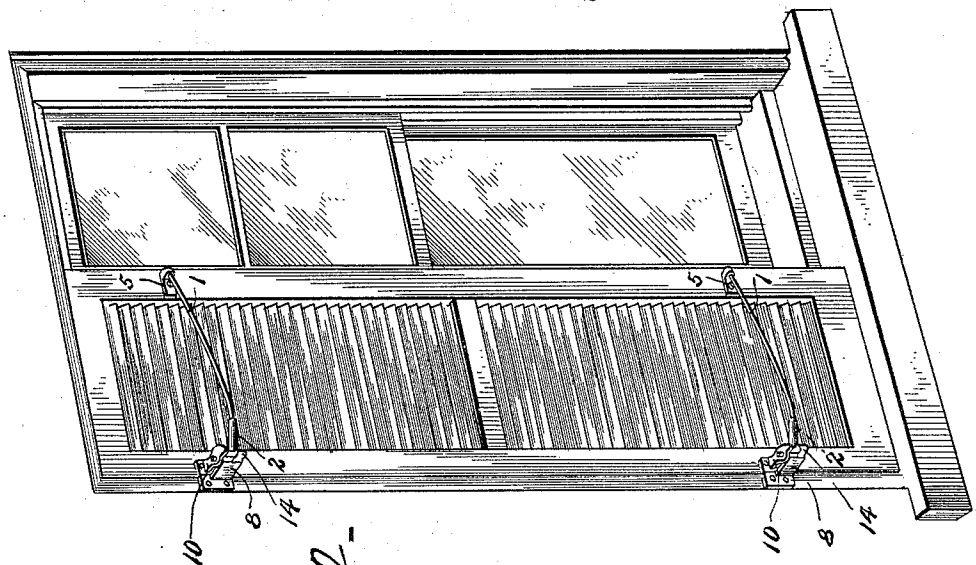


FIG. 2.

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UNITED STATES PATENT OFFICE.

GEORGE W. CHANDLER, OF OGDEN, KANSAS, ASSIGNOR OF ONE-HALF TO WILLIAM C. SNOW, OF BOSTON, MASSACHUSETTS.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 637,852, dated November 28, 1899.

Application filed August 13, 1898. Serial No. 688,519. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CHANDLER, a citizen of the United States, residing at Ogden, in the county of Riley and State of Kansas, have invented a new and useful Door-Spring, of which the following is a specification.

The present invention relates to spring-hinges for doors, blinds, and the like, and has for its object to provide a hinge of this character having a spring which is connected to the stationary member only of the hinge and adapted to engage the door, whereby the latter and the spring are adapted to turn about different centers, and the spring is bowed by the movement of the door.

With the above object in view the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view showing the improved spring-hinge applied to a door. Fig. 2 is a similar view showing the adaptation of the spring-hinge to a blind. Fig. 3 is a detail perspective view of the members of the blind-hinge detached.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to Fig. 1 of the accompanying drawings, 1 designates the spring of the improved hinge and is given a gentle curve from end to end in the form of a large bow or arc, as shown. The spring 1 may be round, square, or flat in cross-section, according to preference, and one end of the spring is received within a tubular socket 2, having a pivotal connection on a vertical axis with the stationary member 3 of the hinge. An integral extension 4 projects laterally outward from the outer face of the fixed member of the hinge, and the tubular socket 2 is pivoted to the outer end of the extension upon a suitable pivot-pin or lug 6, and the movable member of the hinge is pivoted to said extension upon a pintle 6′, located between the pivot-pin 6 and the leaf of the stationary hinge member. It will be noted that the vertical pivot-pin 6 is carried transversely between the vertically-alined ears 7, which project outwardly from the extension 4, and the socket 2 is pivoted upon the pin or lug 6 and received between the ears 7, whereby the socket is effectively held in place and prevented from becoming accidentally disengaged from its pivotal connection with the hinge. The outer end of the spring 1 is received in a fixed socket 5, secured to the face of the door, near the free or swinging edge thereof.

By the arrangement described it is seen that as the door is swung open the distance between the socket 5 and the socket 2 decreases and the spring is bowed until the door is half-way open or reaches a point where it stands at right angles to the door-frame. When the door is moved in either direction from this point, the spring acts to force the sockets 2 and 5 farther apart, and thus effects an opening or closing of the door. Thus it will be seen the door is held by means of the spring in either an open or closed position, this being due to the fact that the pivotal connection between the socket 2 and the hinge 3 is in transverse and vertical alinement with the hinges of the door and offset to a position slightly in advance thereof, as clearly shown in the drawings.

Fig. 2 illustrates the adaptation of the device to a blind for enabling the blind to be removed when desired. The stationary leaf or member of the hinge has an outwardly-projecting portion 8, carrying an upwardly-projecting pintle 9, while the movable member or leaf of the hinge has an outwardly-projecting horizontal portion 10, provided with a pintle-opening 11. The pintle 9 is provided near its upper end with a lateral stud 12, and the opening 11 is provided with a radial extension 13, arranged in such manner as to enable the blind to be moved upward out of engagement with the pintle after having been vibrated outward into a position at right angles to the window-frame in a manner that will be readily understood. In any other position the stud 12 prevents the upward displacement of the blind. The stationary member of the hinge is also provided with an outward extension 14, having an upwardly-extending lug 15, upon which the tubular sleeve 2 is pivot-

ally mounted. This lug 15 is disposed below and arranged in transverse alinement with the pintle of the hinge and also outside thereof, as in the other constructions above described. The extension 10 overhangs at its outer end the lug 15 and prevents the escape of the socket 2.

By the disposition of the pintle-opening outward from the attaching portion of the movable member the latter is mounted to be swung beyond and around the lug 15 in opening and shutting the door or blind, as will be understood, which prevents interference with the pivotal connection of the spring, and the connection of the spring with the stationary member is disposed in front of the pintle, so that the spring may move bodily about the pintle as a center and not interfere with the operation of the hinge.

In the several constructions above described it will be seen that the pivot of the spring-socket is located in transverse alinement with and outside of the pintle of the hinge, so that the distance between the spring-sockets at each end of the spring is shortest when the door or blind is half-way open or in a position at right angles to the door or window frame. By reason of this arrangement the spring will act either to hold the door or blind closed or open. The spring being pivoted to the stationary member of the hinge will move simultaneously with the door or blind, and thereby will not form a stationary bend which would interfere with the operation of the movable member.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a spring-hinge, for doors and the like, the combination with the stationary member of the hinge having an outwardly-extending portion carrying a lug at or near its outer end, and a pintle intermediate its ends, of a spring connected at one end to the door and at its other end to the lug, whereby the spring is bowed by the movement of the door, substantially as and for the purpose set forth.

2. In a hinge for doors and the like, the combination with the stationary member thereof, having a hinge-pintle for the movable member, and a lug arranged in front of and in line with the pintle, of a movable member having an outwardly-projecting horizontal portion provided with a pintle-opening, and a spring having a connection at one end with the door and a pivotal connection at its other end with the lug of the stationary member, whereby the pivotal end of the spring remains relatively fixed and is turned upon its pivot simultaneously with the door, to permit of the operation of the movable hinge member, and the latter is adapted to swing around outside of the lug, substantially as shown and described.

3. In a hinge for doors and the like, the combination with the stationary member having a pintle for the movable member, and a lug arranged in front of and below the pintle, of the movable member having an outwardly-projecting horizontal portion provided with a pintle-opening formed intermediate the ends thereof, the horizontal portion being adapted to overlap the lug, and a spring connected at one end to the door and at its other end to the lug, substantially as shown and described.

4. In a hinge for doors and the like, the combination with the stationary member having a pintle for the movable member, and a lug arranged in front of the pintle, of the movable member having an outwardly-projecting horizontal portion provided with a pintle-opening formed intermediate the ends thereof, and a spring connected at one end to the door, and having a T-shaped tubular socket forming a pivotal connection with the lug, and the horizontal portion of the movable member overlapping the socket and retaining the same in place, substantially as shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. CHANDLER.

Witnesses:
S. A. SAWYER,
O. C. BARNER.