A. FALKENRATH.

SCREEN DOOR SPRING HINGE.

APPLICATION FILED JAN. 15, 1908.

900,501. Patented Oct. 6, 1908.

Fig. 1.

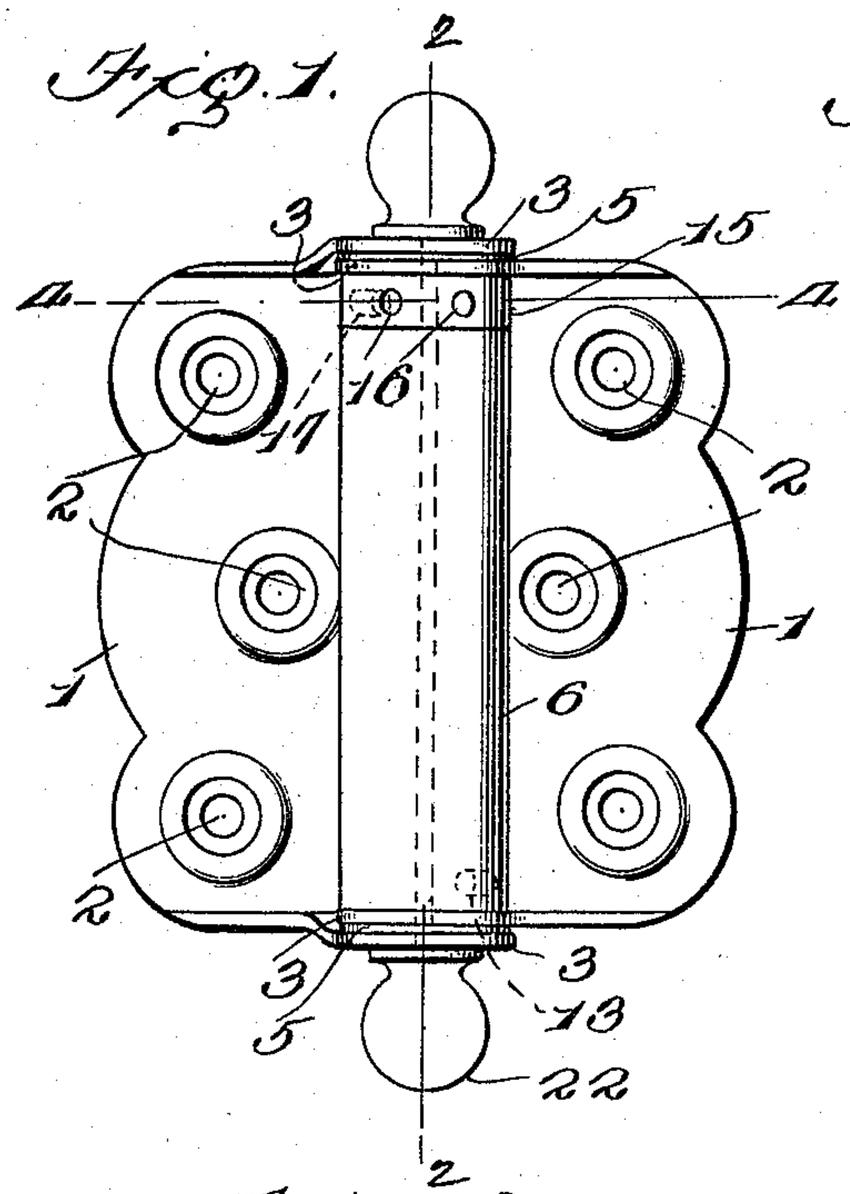


Fig. 2.

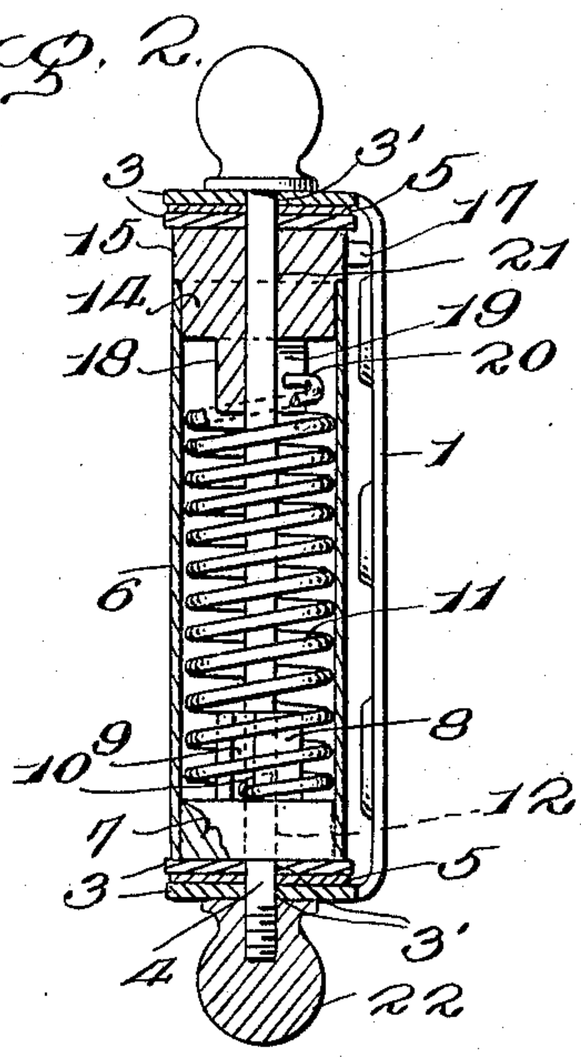


Fig. 3.

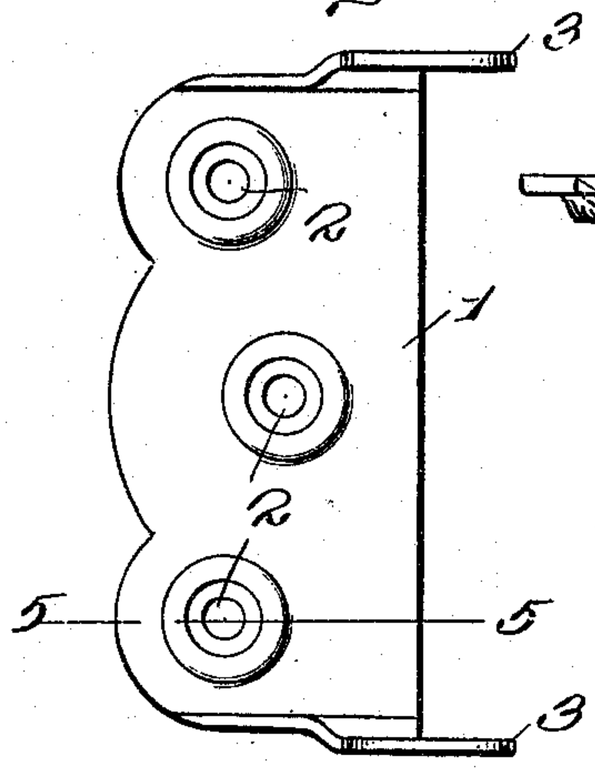


Fig. 4.

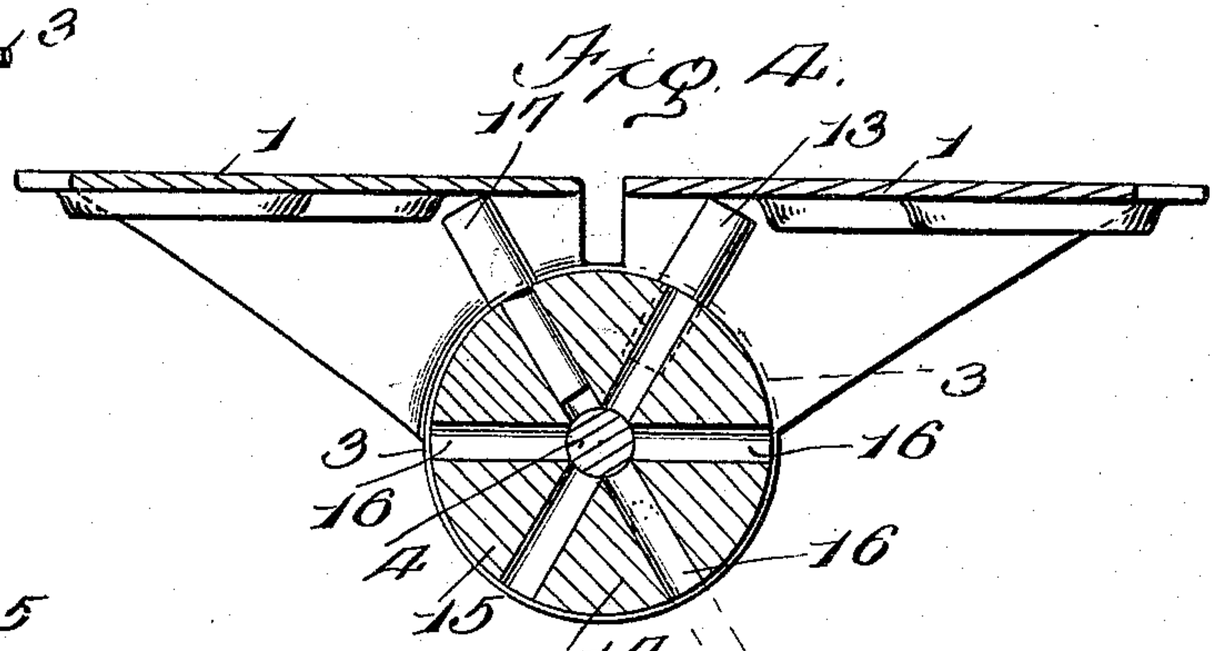
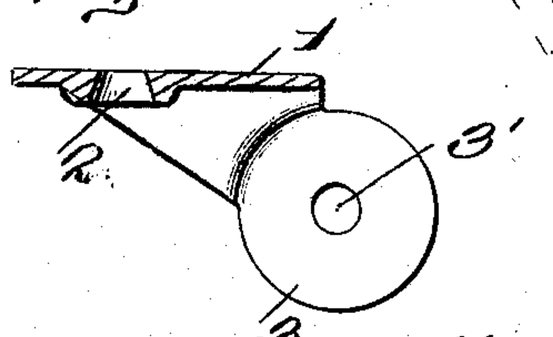


Fig. 5.



Inventor

Witnesses

Dudley Browne.

L. B. Baker

Albert Falkenrath

By

Dudley, Browne & Pelps Attorneys

UNITED STATES PATENT OFFICE.

ALBERT FALKENRATH, OF RACINE, WISCONSIN, ASSIGNOR TO RACINE METAL STAMPING COMPANY, OF RACINE, WISCONSIN, A CORPORATION OF WISCONSIN.

SCREEN-DOOR SPRING-HINGE.

No. 900,501. Specification of Letters Patent. Patented Oct. 6, 1908.

Application filed January 15, 1908. Serial No. 410,893.

To all whom it may concern:

Be it known that I, ALBERT FALKENRATH, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented a new and useful Surface or Screen-Door Spring-Hinge, of which the following is a specification.

My invention relates to certain new and useful improvements in hinges, and the object of my invention is to produce a hinge which is simple in construction, not liable to break or get out of repair, cheap to construct and durable.

With these and other objects in view my invention consists in certain constructions, combinations and arrangements of parts one form of which will be illustrated in the accompanying drawings and then the invention particularly pointed out in the appended claims.

Referring to the drawings wherein I show one form of my invention and wherein the same reference character denotes the same part in the several views, Figure 1 is a perspective view of a hinge constructed in accordance with my invention; Fig. 2 is a sectional view taken on line 2, 2 of Fig. 1; Fig. 3 is a perspective view of the outer leaf of the hinge; Fig. 4 is a horizontal section on line 4, 4 of Fig. 1, and Fig. 5 a horizontal section on line 5, 5 of Fig. 3.

1, 1, designate the side leaves of the hinge which are suitably perforated at 2 to receive screws or other securing means. The leaves are provided at their adjacent ends with the ears 3, 3, bent at right angles to the body of the leaves and are perforated at 3′ to receive the pintle 4.

The ears on one of the leaves are bent outwardly and form cup-shaped seats or bearings in which are seated the ears of the other leaf of the hinge. This bearing serves as an additional means to hold the leaves in proper working relation one with the other and prevents lateral play of the parts due to wear thereof. 5 are washers placed between the heads to reduce wear and friction.

Extending between the ears 3 is a barrel 6 and secured in one end of this barrel is the plug 7 which has the central projection 8 slotted at 9 to receive the inwardly bent end 10 of the spiral spring 11. The plug is centrally bored at 12 through which the pintle 4 passes. The outer end of the plug is flush with the end of the barrel 6, so that it forms a bearing against the adjacent ear 3 when the parts are in position, the plug being held in this position in the barrel by a pin 13 passing through the barrel into the plug. The other end of the barrel 6 is closed by plug 14, which rotatably fits the end of the barrel and on the outer end of the plug I form an enlarged head 15 which preferably has a diameter equal to the diameter of the barrel 6 and in its periphery is provided with the radial perforations 16 into which the pin 17 may be placed to hold the hinge under tension as will be hereinafter described.

On the inner end of the head 14 is formed the projection 18 slotted at 19 to receive the inwardly bent end 20 of the spring 11. The plug 14 is centrally bored at 21 through which the pintle 4 extends.

In assembling the parts the plug 7 is permanently secured in the barrel by driving the pin 13 through the opening in the barrel into the opening in the head 7, whereby the head is fastened into the barrel with its outer end flush with the end of the barrel and its central projection 8 extending into the barrel. The pin 13 projects out from the side of the barrel and forms a stop adapted to engage one of the leaves. The spring 11 is now slipped into the barrel and one of the inwardly bent ends caused to engage the slot 9 which permits the spring to pass down over the projection 8 and whereby the spring is rigidly secured to the barrel. If desired grease can now be placed in the barrel to insure easy working and then the plug 14 slipped into the open end of the barrel, the end 20 of the spring having been first caused to engage the slot 19 in the projection 18. When the plug 14 has been pressed into the barrel so that the head 15 contacts with the end of the barrel, the barrel with its heads in position can now be placed between the ears 3 of the leaves 1, and the pintle passed through the openings which are now in line and the head 22 of the pintle secured thereto. A tool can now be inserted in one of the openings 16 and as soon as the pin 13 is in contact with one of the leaves further rotation of the plug 14 will put the spring under tension, and when the tension on the spring is sufficient the pin 17 can be inserted and upon removing the tool from the opening

16 the pin 17 will be forced against the other leaf, consequently tending to hold the leaves in the position shown in Fig. 1.

While I have described my invention in connection with a surface hinge, it is to be understood that my invention is equally applicable to a jamb hinge or a double acting one, and that many changes may be made in the form, construction and arrangements of parts without departing from the spirit of my invention.

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

In a spring-hinge, the combination with a pair of leaves bent at their upper and lower edges to form pintle receiving ears, the ears on one of the leaves being bent outwardly to form a cup-shaped seat or bearing for the ears of the other leaf, and washers seated on said pintle between the respective bearing portions of the leaves, of a barrel confined between the ears of the shorter leaf, rotatable, slotted and perforated heads closing the ends of said barrel, a spring therein having its ends seated in said heads, a pintle threaded through the leaf ears and the barrel heads, pins seated in the perforations of the heads to prevent the rotation thereof, and a pin adapted to be inserted in the perforation in the head to rotate the same to tighten the spring, as set forth.

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

ALBERT FALKENRATH.

Witnesses:

CHRISTOPHER C. GITTINGS,

MATTIE E. PALMER.