Sept. 28, 1943. C. E. STECKEL 2,330,455

HINGE

Filed Aug. 5, 1942

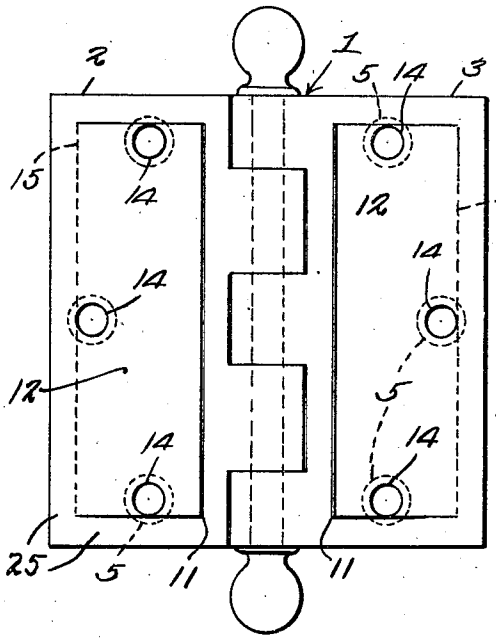


Fig. 1.

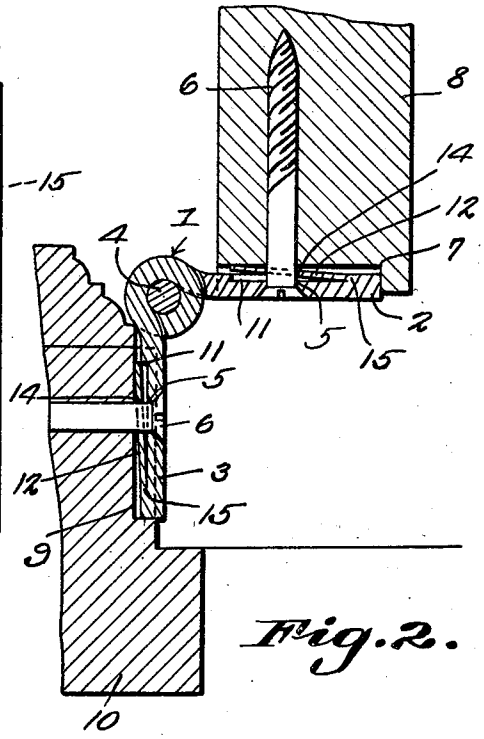


Fig. 2.

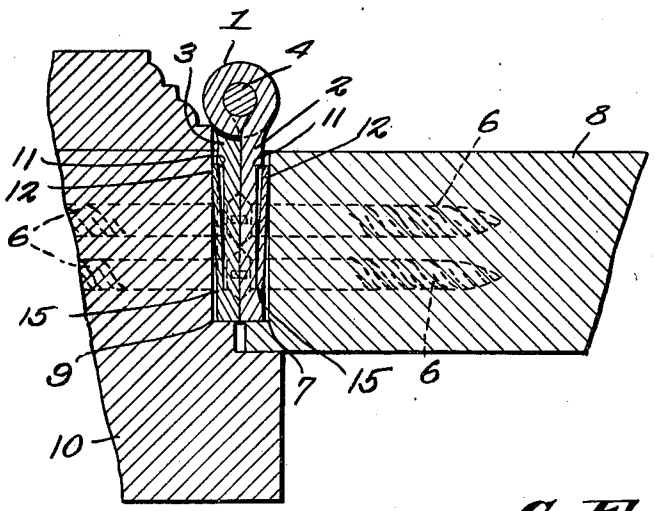


Fig. 3.

C. E. Steckel

INVENTOR.

BY Atkinson & Co.

Patented Sept. 28, 1943 2,330,455

UNITED STATES PATENT OFFICE

2,330,455

HINGE

Clyde E. Steckel, Allentown, Pa.

Application August 5, 1942, Serial No. 453,687

1 Claim. (Cl. 16—131)

When a door or other hingedly mounted barrier swells, its free edge, opposite the hinged edge, is likely to come into contact with a door frame before a perfect closure is effected: and if the barrier shrinks, there is too wide a gap at the place indicated. The difficulty cannot be remedied by adjusting the hinge screws in and out since the door then is hung loosely, and some supplemental means must be provided for preventing the hinge wings from sliding back and forth on the screws.

The present invention aims to provide a novel spring means which permits adjustment of the hinge screws, and at the same time keeps the hinge wings from sliding on the screws, adjustment being secured, without the penalty of a loosely hung, or dragging door.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawing:

Fig. 1 shows in elevation, a device constructed in accordance with the invention;

Fig. 2 is a cross section wherein the device is shown assembled with a barrier and with a barrier-frame, the barrier being open; and

Fig. 3 is a cross section wherein the barrier is shown in closed position.

The device comprises a hinge 1, including wings 2 and 3, connected by a pintle 4, the wings having openings 5, adapted to receive screws 6 or other attaching elements whereby the wing 2 is held in a seat 7 formed in a door 8, and whereby the wing 3 is held in a seat 9 formed in a door frame 10.

Each wing 2—3 has a recess 11 in its inner surface, the word "inner" meaning the surface of the wing 2 that is adjacent to the door 8, and the surface of the wing 3 that is adjacent to the frame 10, the words "outer" and "outwardly" having reference to the surfaces of the two hinge wings that face each other.

In each recess 11, is disposed a compression means, such as a leaf spring 12, provided with openings 14, registering with the openings 5 of the wings 2 and 3 to receive the screws 6. The leaf springs 12 are free, saving along the edge portions 15, which are remote from the hinge pintle 4, the springs being disposed at a slight angle with regard to the respective wings, and the aforesaid edge portions 15 being secured to the respective wings.

The leaf springs 12 exert a pressure against the door 8 and the frame 10 at the bases of the recesses 11, the wings 2—3 being thrust outwardly, so that the heads of the screws 6 remain seated in the countersinks provided for their reception.

The screws 6 may be moved inwardly if the door has swelled, and they may be moved outwardly if the door has shrunk. Consequently, a properly fitting door results at all times, and there is no looseness in the door suspension.

So far as I am advised as to the state of the art, adequate attention has not been given heretofore to the provision of a hinge which will possess the advantages of the leaf spring structure, and also have as firm a bearing against the door or jamb as an ordinary butt, when there is no occasion for resorting to the use of the spring and demanding its function. In this connection it should be noted that the use of the spring is an emergent matter, there being, perhaps, quite as many instances in which the spring will be neglected as there are when it serves a useful purpose. The problem is, primarily, to provide a securely mounted hinge, if there is no occasion for an adjustable mounting, and at the same time have at hand the means for adjustment, should adjustment be required.

As to structure which makes for the end in view, and considering the leaf 2 as an example, the single recess 11 extends partway through the wing, the area of the recess being almost as large as the area of the wing and forming, in the wing, a rib 25 extended unbrokenly around the recess.

The area of the leaf spring 12 is equal to the area of the recess 11, and the thickness of the spring is equal to the depth of the recess, whereby, under the action of the securing element 6, the spring may be housed in the recess, the exposed face of the spring and the corresponding face of the rib then presenting a large, flat surface to the part whereunto the spring is attached, in the event that an offsetting of the wing with respect to said part is not necessary.

What is claimed is:

In a hinge structure for barriers, a wing pro-

vided upon its inner surface with a single recess extended partway therethrough, the area of the recess being almost as large as the area of the wing and forming, in the wing, a rib extended unbrokenly around the recess, and a single leaf spring disposed at an angle to the base of the recess and secured along one edge portion to the wing, within the recess, the wing and the spring having registering openings for the reception of securing elements, the area of the spring being equal to the area of the recess, and the thickness of the spring being equal to the depth of the recess, whereby, under the action of securing elements in the openings, the spring may be housed in the recess, the exposed surface of the spring and the corresponding face of the rib then presenting a large, flat surface to the part whereunto the wing is attached, in the event that an offsetting of the spring with respect to said part is not necessary.

CLYDE E. STECKEL.