(No Model.)

J. K. FAGAN.

DOOR.

No. 533,414. Patented Jan. 29, 1895.

Fig. 2.

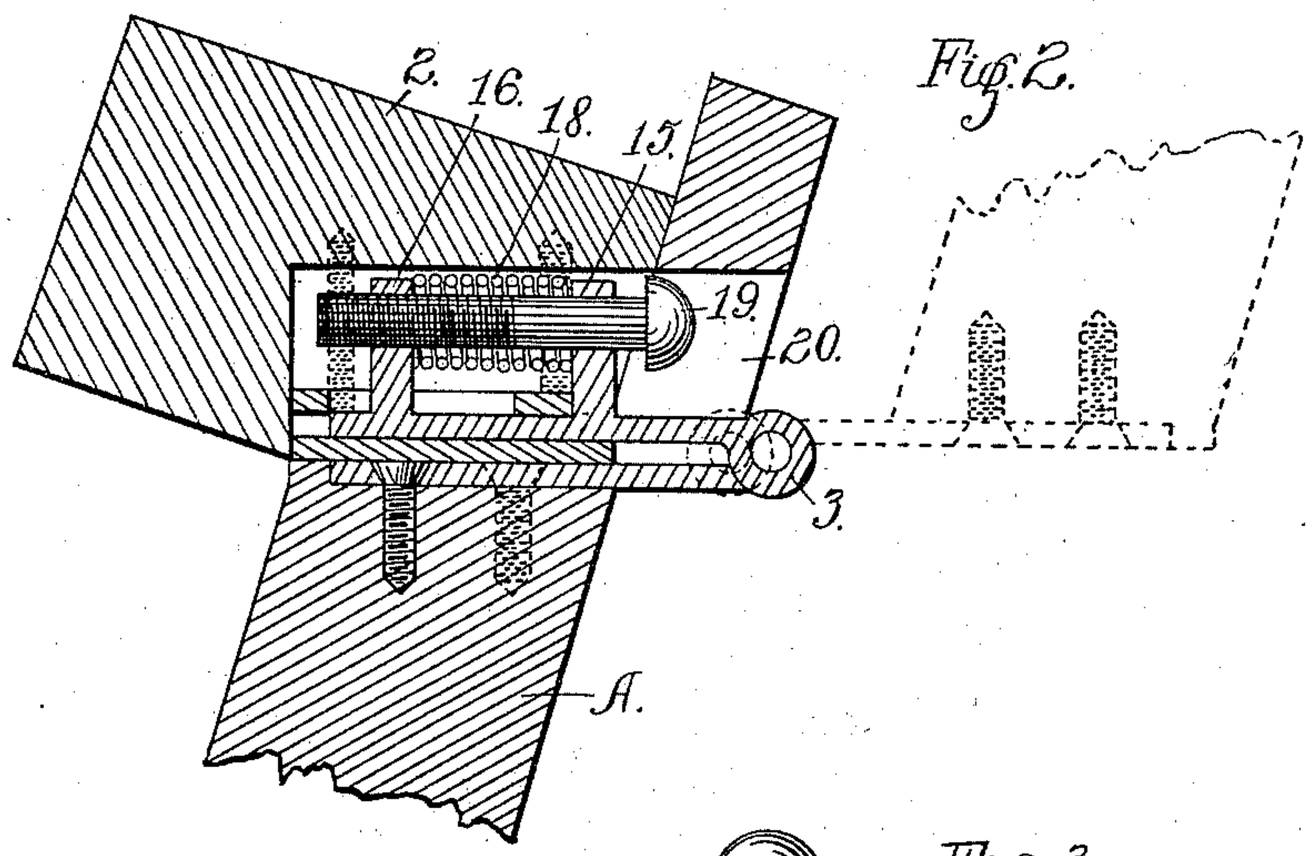


Fig. 3.

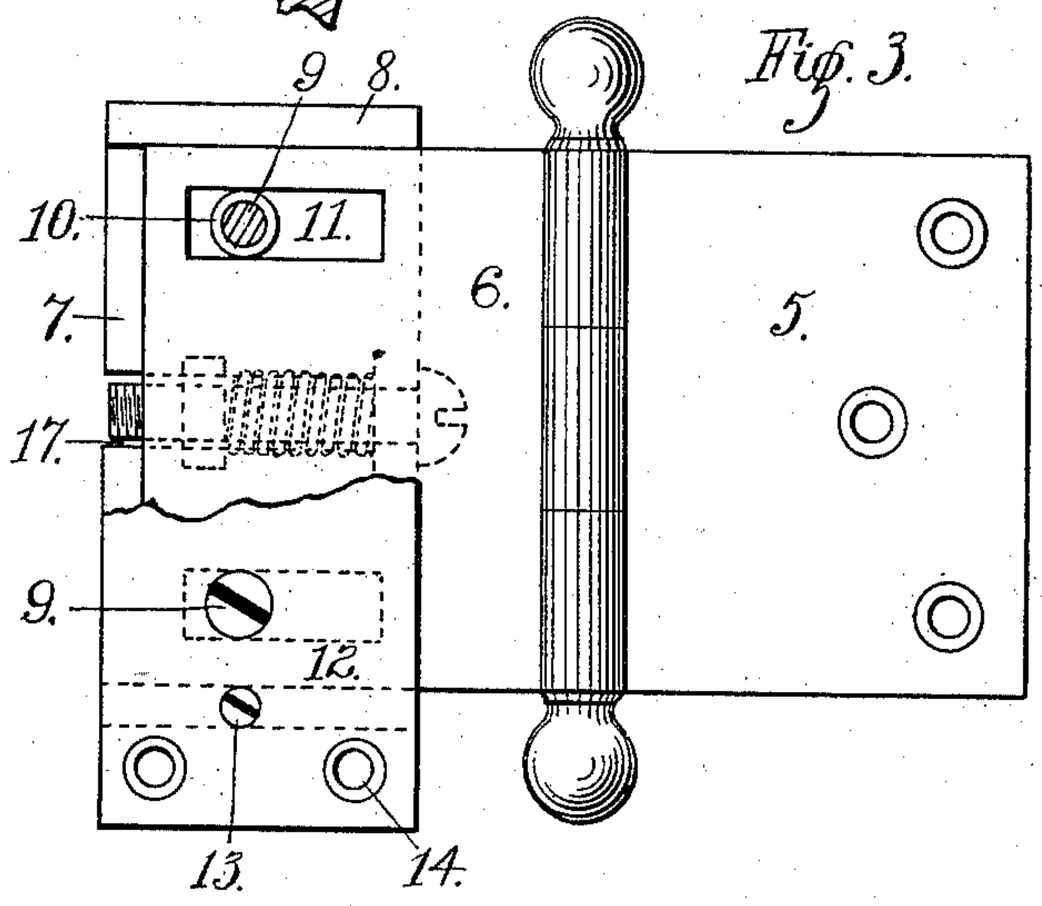
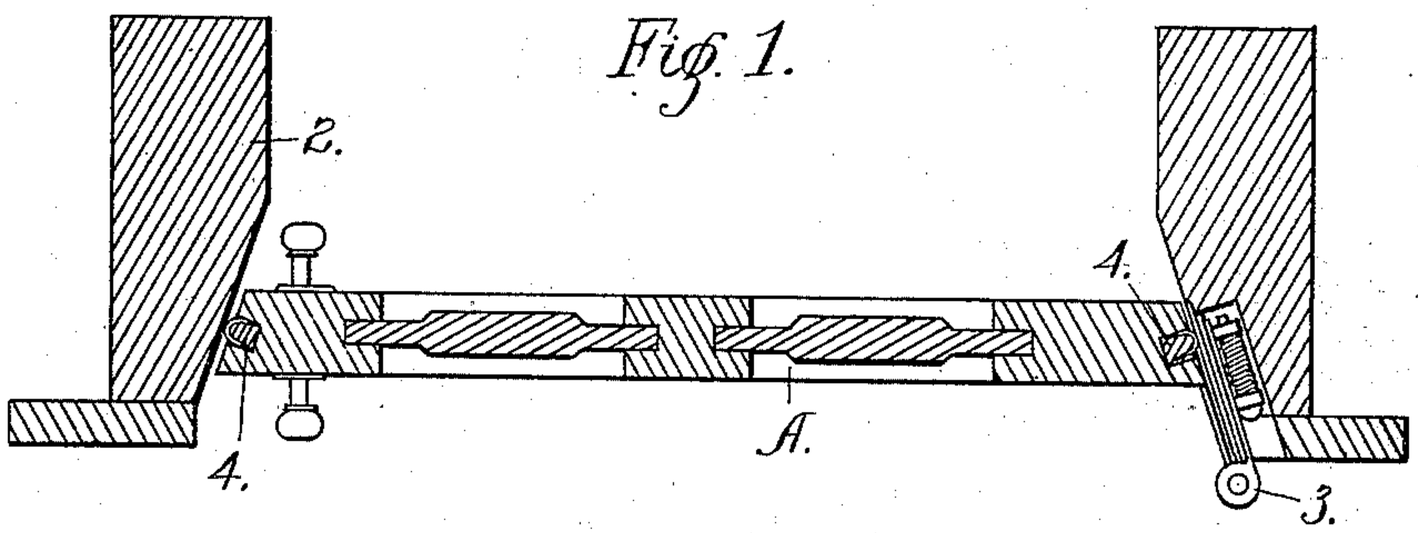


Fig. 1.



Witnesses:-
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W. C. Swift.

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UNITED STATES PATENT OFFICE.

JOHN K. FAGAN, OF WEST SUPERIOR, WISCONSIN.

DOOR.

SPECIFICATION forming part of Letters Patent No. 533,414, dated January 29, 1895.

Application filed April 13, 1893. Serial No. 470,157. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. FAGAN, of West Superior, Douglas county, Wisconsin, have invented certain Improvements in Doors, of which the following is a specification.

My invention relates to improvements in hinge doors, its object being to employ a construction by means of which the door may be always tightly fitted to the casing, notwithstanding the shrinkage and swelling of the wood work.

To this end my invention consists in fitting the door way with beveled casing and similarly beveling the edges of the door. I also provide the edges of the door with elastic weather strips to make it fit still closer. The door is hung upon hinges which are adjustable to carry the door inward and outward, and which are provided with springs so as to always exert an inward pressure on the door when closed. The pieces forming the door are fitted together with mitered corners so as to preserve the outline of the outer frame notwithstanding the shrinkage of the wood.

My invention further consists in the specific construction and combination hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a horizontal cross section of my improved door showing the shape of the casing and door, the adjustable hinges and the weather strips. Fig. 2 is a sectional detail of one of the spring controlled expansible butts upon which the door is hung, the door casing being shown in section, and Fig. 3 is a detail plan view of a butt and part of the face plate, the same being broken away to show the construction beneath.

In the drawings 2 represents the door casing, which is beveled as shown. The door A has its edges similarly beveled, and into grooves in these edges are fitted elastic strips 4. The hinges or butts 3 are expansible, having means for adjustment and controlling springs. These may be of any suitable construction for the purpose, which is to exert spring tension on the door to draw it closely into the opening, and cause it to fit tightly against the adjacent beveled casing. For this purpose I prefer the construction of butt shown in detail in Figs. 2 and 3. The butt is made up of the flap 5 adapted to be secured to the edge of the door A, and the pintle member 6 which is secured to the casing. It is not secured rigidly to the casing, but the plate 7 is socketed into the casing, and the member or flap 6 slides upon it, being held from displacement by the flanges 8, and by means of screws 9 entering studs or bosses 10 upon the plate 7, which project through slots 11 in the flap 6. On top or outside the flap 6 is a face plate 12, which is secured by means of the screws 9 and 13 to the plate 7, and to the casing by means of screws passing through holes 14. The plate 7 is provided with the rearwardly extending standard 15 and the flap 6 has a similar rearwardly extending standard 16, which projects through the slot 17 in the plate 7. Interposed between the standards is the spring 18, and passing through this spring and the standards is the adjusting screw 19, which turns freely in the standard 15 and is threaded into the standard 16. Access is afforded to the head of the screw so that it may be turned, by the opening 20 which leads to the socket in the casing, in which the plate 7 is secured. From this construction it is evident that the screw 19 limits the contracting movement of the hinge under the influence of the spring 18, but that when the door is closed the spring will yield to the excess of strain tending to thrust the flap 6 outward so that the door can enter and be fitted to the opening in the casing. The spring 18 thus exerts an elastic pressure upon the door to force it tightly against the casing. The relative position of the parts is indicated clearly in Fig. 2, the full lines showing the expanded position of the parts of the hinge when the door is closed, while the dotted lines show the position of the parts when the door is open and the spring is free to act to thrust the flap 6 inward to the limit permitted by the screw 19.

As the woodwork of the door casing shrinks, the screws 19 are loosened to allow the springs 18 to carry the door still farther into the opening and preserve a close fit.

I claim—

1. The combination of a door having beveled edges, the door casing similarly beveled

to receive the door, and the elastically expansible hinges supporting said door upon said casing, substantially as described.

2. The combination with the beveled door casing of a doorway, of the door having similarly beveled edges fitted thereto, and the supporting hinges for said door having an adjustable, spring controlled, expansible connection with the door casing, substantially as described.

3. The combination with the beveled casing of a doorway, of the door having similarly beveled edges fitted thereto, the elastic strips arranged in grooves in the edges of the door and adapted to bear against the casing when the door is closed, the supporting butts for said door having members which are secured to the casing, and springs tending to contract the same and to exert elastic pressure upon the door when closed, substantially as described.

In testimony whereof I hereto set my hand this 5th day of March, 1893.

JOHN K. FAGAN.

Witnesses:
T. D. MERWIN,
H. S. JOHNSON.