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O. BRAGER ET AL

1,563,154

GRAVITY DOOR HINGE

Filed Jan. 11, 1924

Fig. 1.

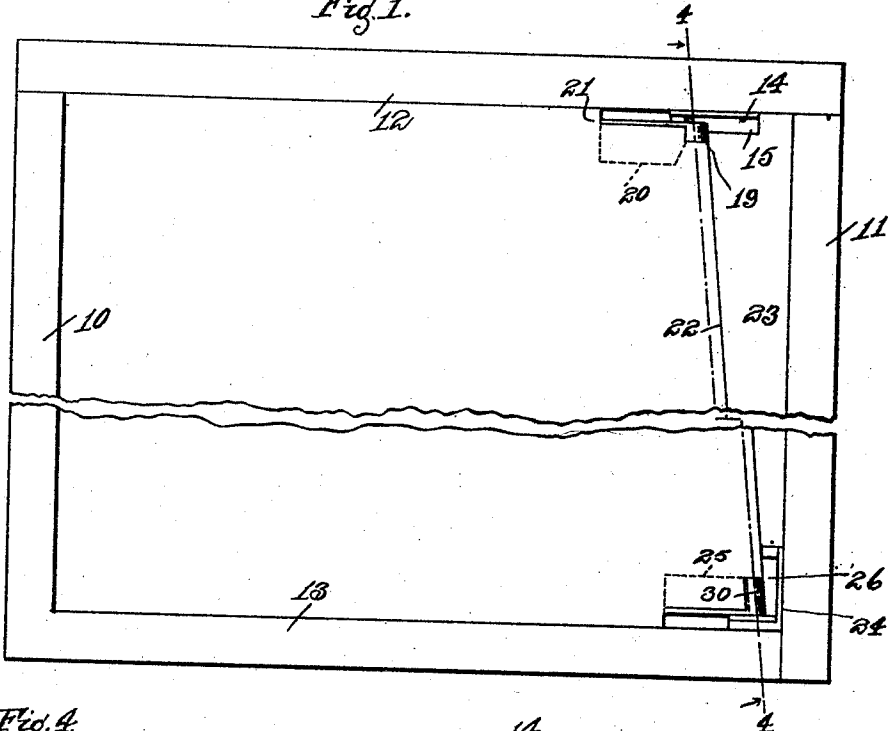


Fig. 4.

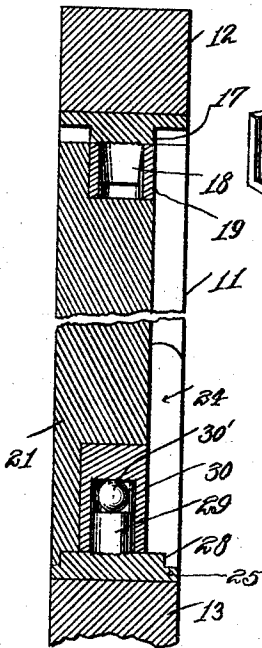


Fig. 2.

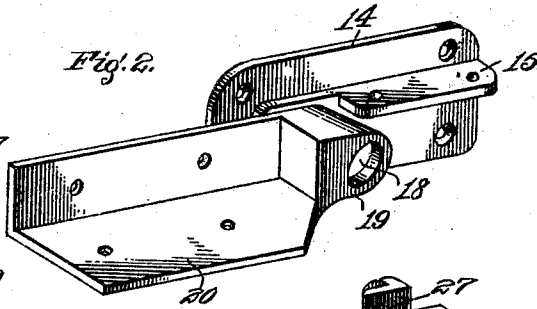
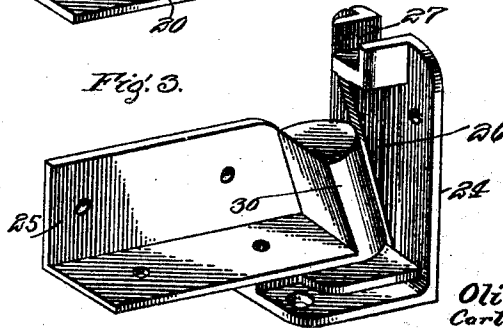


Fig. 3.



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UNITED STATES PATENT OFFICE.

OLIVER BRAGER AND CARL S. BRAGER, OF CLEAR LAKE, AND THOMAS O. THOVSON
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GRAVITY DOOR HINGE.

Application filed January 11, 1924. Serial No. 635,626.

To all whom it may concern:

Be it known that we, OLIVER BRAGER and CARL S. BRAGER, citizens of the United States, residing at Clear Lake, in the County of Cerro Gordo and State of Iowa, and THOMAS O. THOVSON and ELMER BRAY, citizens of the United States, residing at Hanlontown, in the county of Worth and State of Iowa, have invented certain new and useful Improvements in Gravity Door Hinges; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in doors, and particularly to mountings for doors.

One object of the invention is to provide a novel and improved mounting for a gravity operated door, which is especially adapted for use in hog houses.

Another object is to provide a mounting for a gravity operated door which includes upper and lower hinges constructed and arranged to permit the door being opened from either direction, and which door will automatically gravitate into closed position.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is an elevation of a door and the mountings therefor, showing the application of the invention.

Figure 2 is a perspective view of the upper hinge.

Figure 3 is a perspective view of the lower hinge.

Figure 4 is a vertical longitudinal sectional view through the pivotal portions of the upper and lower hinges, on the line 4-4 of Figure 1.

Referring particularly to the accompanying drawing, there is shown a door-frame which includes the side stiles 10 and 11, and the top and bottom rails 12 and 13.

The upper hinge comprises a metal plate 14 which is adapted to be secured to the lower face of the top rail 12, of the doorway. On the lower face of the plate 14, and extending throughout the greater portion of its length, and at one side of the longitudinal center of said face, is a rib 15. At one

end of the lower face of the plate 14 there is formed a boss 17, and extending downwardly at an acute angle from the face of the boss, is a stub shaft 18, which is received in the eye portion 19, of the other member of the hinge. This other member of the hinge has the angle plate portion 20 one wing of which is arranged to be secured to the face of the door 21, adjacent the upper end, while the other wing is secured to the upper edge of the door, as clearly seen in Figure 1 of the drawing.

The side of the door adjacent the hinges, is cut off obliquely, as indicated at 22, and between this edge and the adjacent side stile 11, is a triangular filler board 23, said board being fixed to said stile.

The lower hinge includes the angle member 24 and the door attached portion 25. The portion 24 has one of its wings secured to the side stile 11, and its other wing secured to the upper face of the lower rail 13. On the forward face of the vertical wing of the member 24, there is formed a longitudinal central, and downwardly tapering rib 26, and in the upper end of said wing, and connected with the upper end of the rib, is a socket 27 which receives the lower end of the filler board 23. On the horizontal wing of the member 24 there is formed a boss 28, and rising from this boss is the forwardly inclined stub shaft 29, which is received in the socket 30 of the portion 25, of the hinge. This portion 25 is in the form of an angle plate, and has one wing secured to the face of the door 21, while its other wing is secured to the lower edge face of the door. Within the socket 27, and resting on the upper end of the stub shaft 29, is a bearing ball 30, on which the weight of the door is sustained, and whereby the opening and closing movements of the door are rendered easy.

It will be noted that the incline of the stub shafts 18 and 29, and the eye portion 19 and socket 30, is the same as that of the adjacent edge of the door, and of the associated edge of the filler board 23. By this arrangement of the pivotal portions of the hinges, the upper hinge pivot is slightly forward of the corresponding portion of the lower hinge, whereby when the door is swung into open position, from either direction, and then released, the door will gravitate into closed position.

The rib 15, of the upper hinge, is secured to one face of the upper end of the filler board 23, as seen in Figure 1. The provision of the filler board serves to prevent drafts, the present device being especially adapted for use in connection with hog houses. It will, of course, be understood that the principle may be applied to doors of other houses, with equal facility, and with corresponding benefits.

What is claimed is:

1. The combination with a door frame and a door, of a hanger for the door comprising a pair of hinges, each of which is provided with a stationary member and a movable member, a filler board, and means carried by each of the stationary members for supporting said filler board in position.

2. The combination with a door frame, a door, and a filler board, of a hanger for the door comprising a pair of hinges, each of which is provided with a stationary member and a movable member, one of the said stationary members being provided with a de-

pending rib, and the other stationary member being formed with a socket, whereby to support the filler board in position.

3. The combination with a door frame, a door and a filler board, of means for supporting said door and filler board, said means comprising an upper and a lower hinge, each of which is provided with a stationary member and a movable member, the stationary member of the upper hinge being provided with a longitudinally vertical rib to which is to be attached one end of said filler board, and the stationary member of the lower hinge including a vertical portion in the upper end of which is formed a socket, whereby to receive and support the other end of the said filler board.

In testimony whereof we have affixed our signatures.

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