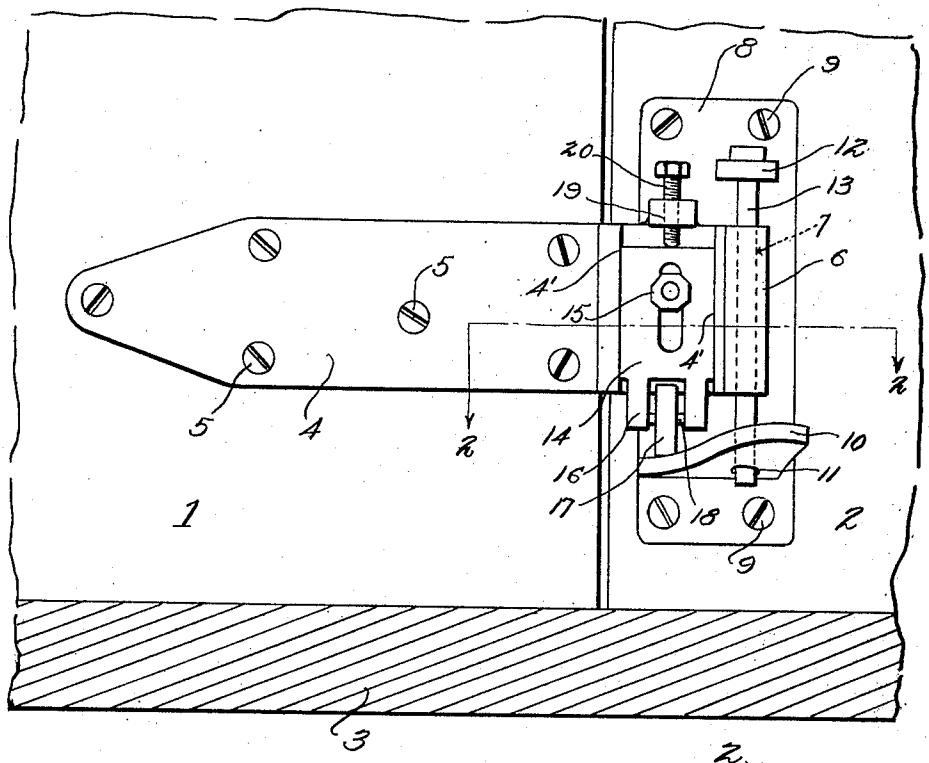
W. W. WOOD.

GRAVITY HINGE.

APPLICATION FILED MAY 9, 1921.

1,393,190. **Patented Oct. 11, 1921.**

Fig. 1.



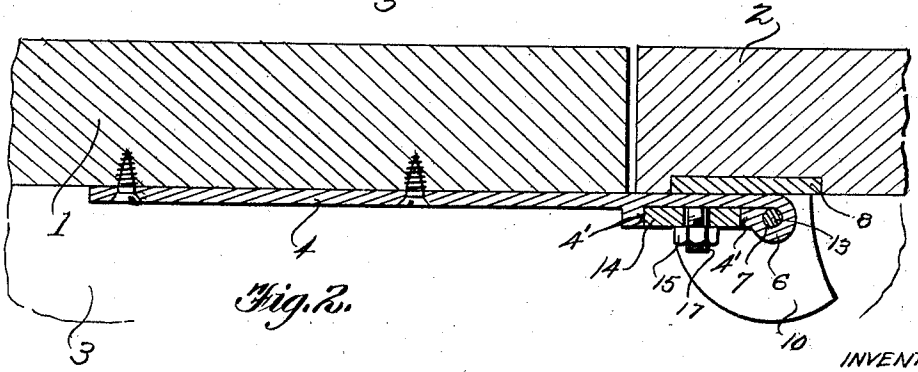


Fig. 2.

INVENTOR,

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UNITED STATES PATENT OFFICE.

WALTER W. WOOD, OF SEATTLE, WASHINGTON.

GRAVITY-HINGE.

1,393,190. Specification of Letters Patent. Patented Oct. 11, 1921.

Application filed May 9, 1921. Serial No. 467,892.

To all whom it may concern:

Be it known that I, WALTER W. WOOD, a citizen of the United States, and residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Gravity-Hinges, of which the following is a specification.

This invention relates to improvements in door hinges.

A particular object of the invention is to provide a door hinge of the gravity type so that the door will rest directly on the floor when closed and will be raised therefrom when opened, the usual sill being omitted.

Another object of the invention is to provide means carried by the door plate so that it may be adjusted vertically with respect to the jamb plate in order that the door may be lowered to contact with the floor as the bottom wears off.

This hinge is of the gravity type which will normally assume the closed position by gravity.

In the drawings:

Figure 1 shows a partial side elevation of the bottom portion of a door and jamb showing one hinge applied near the lower end thereof.

Fig. 2 shows a sectional view on line 2—2 of Fig. 1.

1 indicates the bottom portion of the door which is hinged to the door jamb 2, and in closed position is adapted to rest upon the floor, as indicated at 3 omitting the usual sill. The hinges for mounting the door are all the same and only the lower one is illustrated, which includes the door plate 4 secured to the door by screws 5, a portion of which projects beyond the edge of the door and is formed at the end with a knuckle 6 having a bore 7. The jamb plate 8 is secured to the door jamb 2 in any suitable manner preferably by screws 9, and is formed with an outwardly projecting upwardly curved arcuate cam projection 10 having an opening at 11. Near the upper end of the plate is a lateral projection 12, formed with an opening to receive a hinge pin 13 which passes through the bore 7 of the plate 4, and the lower end of which projects through the opening 11 in projection 10, thereby hinging the door to the jamb.

A supporting plate 14 is adjustably mounted on the door plate 4 in guides 4′ adjacent the enlarged portion 6 and is adapted to be locked in an adjusted position by the lock nut 15. The lower end of the supporting plate is provided with a pair of ears 16 in which is rotatably mounted a roller 17 on the pin 18. The door plate 4 is formed with a projection 19 in which is mounted an adjusting screw 20 which is adapted to engage the upper end of the supporting plate providing means for adjusting the same whereby wear on the bottom of the door may be compensated for.

In mounting a door with hinges of the type above described it will be noted that the door when closed may be adjusted to rest on the floor, and when opened the roller 17 riding on the upwardly curved surface of projection 10 will raise the door from the floor so that it may be easily opened without the usual friction and binding with the floor. It will also be noted that this door will automatically close by gravity when released from its open position without the aid of a door closer. The wear on the bottom of the door due to the friction thereof with the floor may be compensated for by adjusting the screw 20 on the door plate 4 to lower the door and the plate with respect to the jamb.

In storage plants, ice boxes, and other places where it is desired to have a door structure which is absolutely tight and free from obstruction at the bottom, so that trucks may be wheeled through the door without obstruction, a hinge of the type above described is very useful in that, as above stated, it is adapted to be adjusted to permit the door to rest on the floor when closed and thus prevent a crack at the bottom of the door, and also eliminates the use of a sill. The cracks around the other portions of the door are usually closed by projections from the door jamb so that this part is taken care of thereby.

What I claim is:

1. A gravity hinge comprising a jamb plate having a projection formed thereon with an upwardly inclined cam surface, a door plate pivoted to said jamb plate and adapted for vertical movement with respect thereto, a supporting plate slidably mounted on the door plate, a roller carried by said supporting plate and adapted to engage said cam surface, means for locking the supporting plate with respect to the door plate, and

separate means carried by the door plate for adjusting the supporting plate with respect thereto.

2. A gravity hinge, comprising a jamb plate, having a projection formed thereon with an upwardly inclined cam surface, a door plate having a knuckle on the end portion thereof, a pintle carried by the jamb plate passing through the knuckle and pivotally mounting the door plate thereto and permitting vertical movement of the door plate with respect to the jamb plate, a supporting plate having a roller mounted in the lower end thereof adapted to engage the cam surface, a rib formed on the door plate spaced from the knuckle adapted to coöperate with a portion of the knuckle to form a guide for the supporting plate, a set screw mounted in a projection on the upper edge of the door plate adapted to engage the upper end of the supporting plate, and locking means carried by the door plate and extending through a slot formed in the supporting plate for rigidly securing the supporting plate to the door plate in adjusted position.

In testimony whereof I affix my signature.

WALTER W. WOOD.