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W. P. GODFREY

1,910,102

HINGE

Filed April 27, 1932

Fig. 1.

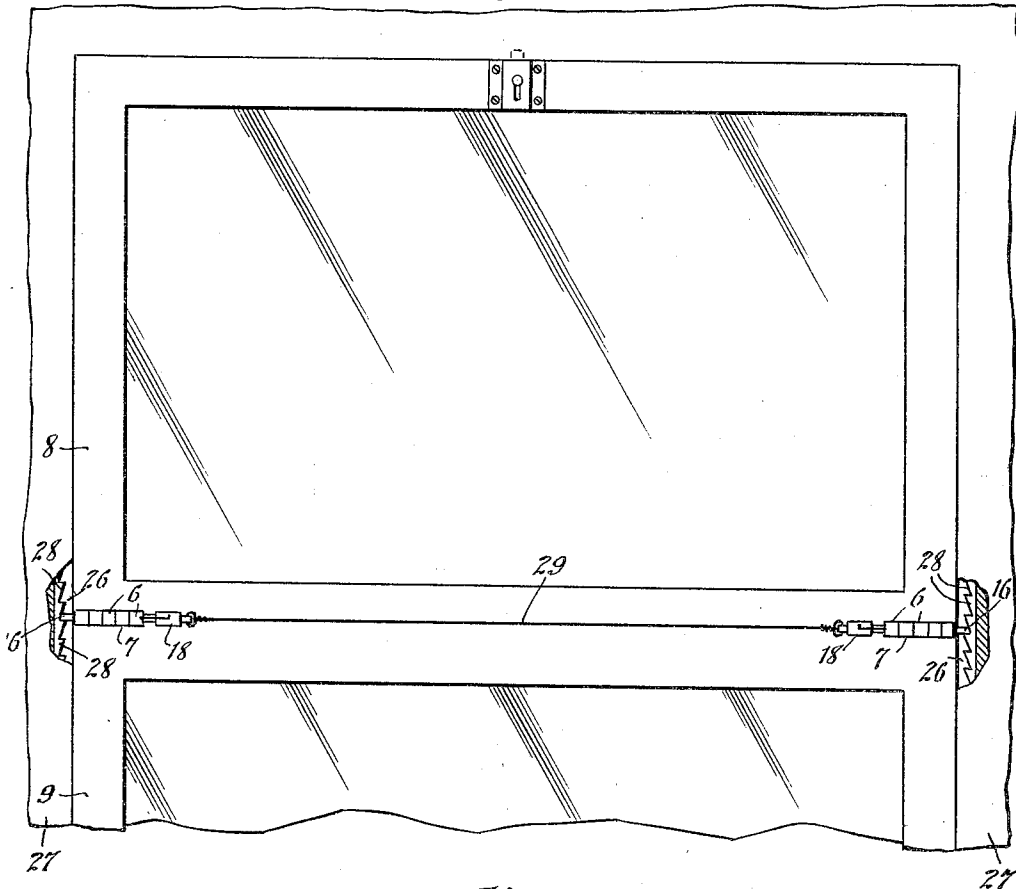


Fig. 2.

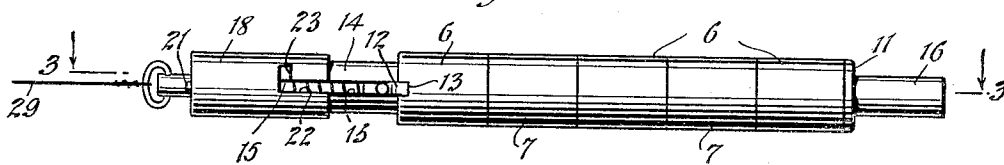
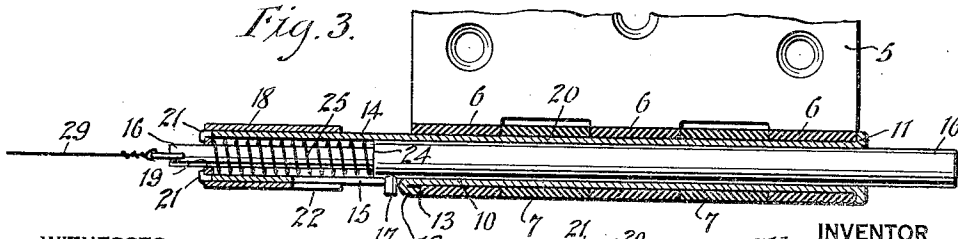


Fig. 3.

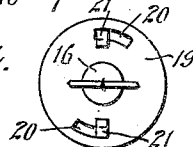


WITNESSES

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Fig. 4.



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HINGE

Application filed April 27, 1932. Serial No. 607,820.

An object of the invention is to provide a hinge having a bolt movable longitudinally of the hinge pintle for disposal in an opening or guideway.

5 Another object of the invention is to provide a hinge having a hollow pintle in which the bolt is movably disposed. Resilient means are provided for holding the bolt yieldingly extending relatively to the hollow pintle, and means are also provided for limiting the movement of the bolt and for securing the bolt within the hollow pintle.

10 A further object of the invention is to limit the withdrawal of the bolt into the hollow pintle and to hold the bolt in its withdrawn position.

15 Additional objects of the invention will appear in the following specification in which the preferred form of the invention is described.

20 In the drawing similar reference characters refer to similar parts in the several views, of which

25 Figure 1 is a fragmentary view of a window frame having sashes which are connected by the hinges which are the subject matter of this application.

30 Figure 2 is a side elevation of the hinge which is the subject matter of this application.

Figure 3 is a sectional view on the line 3—3 of Figure 2, and

Figure 4 is an end view, the leaves being omitted.

35 The hinge which is the subject matter of this application may be used for various purposes, but is particularly well adapted for the window which is the subject matter of the Patent No. 1,858,149, issued May 10, 40 1932.

The hinge has two leaves, one of which is shown at 5 in Figure 3 of the drawing, a knuckle or knuckles being secured to each of the leaves of the hinge. In the drawing 45 three knuckles 6 are shown secured to the

leaf 5, there being two knuckles 7 secured to the other leaf of the hinge. The leaf 5 is preferably secured to the sash 9, while the companion leaf is preferably secured to the sash 8. Therefore, it will be seen that the knuckles 6 will be secured relatively to the sash 9.

55 Disposed in the knuckles 6 and 7 there is a cylindrical pintle 10 which is secured to a knuckle 6 at one end of the hinge by means of turning over the end of the cylindrical pintle 10 at 11 for gripping the said knuckle 6. At the other end of the hinge is a flange 12 is turned over and is disposed in a recess 13 in the other end knuckle 6. With this 60 construction it will be understood that the cylindrical pintle 10 is prevented from rotating relatively to the knuckles 6 and is also prevented from longitudinal movement relatively to the said knuckles. The end 65 14 of the cylindrical pintle 10 extends beyond the knuckles, as illustrated in Figures 2 and 3. This end 14 of the cylindrical pintle 10 has a slot or guideway 15, there being a bolt 16 disposed in the cylindrical 70 pintle 10, the bolt 16 having a projection 17 disposed for movement in the slot or guideway 15.

75 Disposed on the outer end 14 of the cylindrical pintle 10, there is a collar 18 which has a head 19 with arcuate guideways 20 through which flanges 21 extend from the cylindrical pintle 10, the flanges 21 being bent over the outer side of the head 19 to prevent the outward movement of the collar 18 relatively to the cylindrical pintle 10 and also to limit the rotary movement of the collar relatively to the cylindrical pintle 10. The inner end of collar 18 is spaced 80 from the adjacent knuckle 6 so that the projection 17 on the bolt 16 may travel in the slot or guideway 15 in the cylindrical pintle 10 before reaching a slot or guideway 22 in the collar 18. With this construction the 85 collar 18 may be rotated to move its slot or 90

guideway 22 out of alinement with the slot or guideway 15, and thereby limit the withdrawal of the bolt 16. It will also be seen that the collar 18 has a lateral recess 23 extending from its slot or guideway 22 so that
 5 when the bolt 16 has been fully withdrawn the collar 18 may be rotated to receive the projection 17 in its recess 23 and thereby hold the bolt in this withdrawn position.
 10 The bolt 16 has a shoulder 24 and between this shoulder and the head 19 there is a spring 25 for holding the bolt yieldingly extended.

When the hinges, which have been described, are used in connection with the
 15 sashes 8 and 9, two hinges will be employed, one at each side of the sashes, the leaves of the hinges being secured to the sashes to connect them together in the well known manner.
 20 With this construction, the bolts 16 may be held extended by the springs 25 in the guideways 26 in the window frame 27 and in engagement with teeth 28 of racks which are secured in the guideways 26, it
 25 being possible to withdraw the bolts 16 by pulling on a cord 29 which has its ends secured to the inner ends of the bolts 16. When the collars 18 are positioned as shown in Figures 2 and 3 of the drawing, the bolts
 30 16 may be withdrawn from the teeth 28 and also from the guideways 26, and the bolts 16 may be held in this withdrawn position by rotating the collars 18 so that the projections 17 will be disposed in the recesses
 35 23. When it is desired to withdraw the bolts 16 from the teeth 28 but not from the guideways 26 the collars 18 will be rotated to move their slots or guideways 22 out of alinement with the slots or guideways 15
 40 and the withdrawal of the bolts 16 will be limited by the engagement of the projections 17 with the inner ends of the collars 18.

What is claimed is:

1. A hinge having a hollow pintle with
 45 an open end, a bolt disposed in the hollow pintle for moving through the said open end, and resilient means for holding the bolt extended through the said open end.

2. A hinge having a hollow pintle with
 50 an open end, a bolt disposed in the hollow pintle for moving through the said open end, resilient means for holding the bolt extended through the said open end, and means to hold the bolt inwardly against the
 55 influence of the resilient means.

3. A hinge having knuckles, a hollow pintle disposed in the knuckles and having an open end extending beyond the knuckles, there being a longitudinally extending slot
 60 in the pintle beyond the knuckles, and a bolt disposed in the hollow pintle and having a projection disposed for moving in the slot.

4. A hinge having knuckles, a hollow pintle disposed in the knuckles, and having an
 65 open end extending beyond the knuckles,

there being a longitudinally extending slot in the pintle beyond the knuckles, a bolt disposed in the hollow pintle, and having a projection for moving in the slot, and resilient means for holding the bolt yielding
 70 extended through the said open end.

5. A hinge having two leaves provided with alined knuckles, a hollow pintle disposed in the knuckle or knuckles and secured to the knuckle on one of the leaves,
 75 the hollow pintle having an open end extending beyond the knuckles, there being a longitudinally extending slot in the hollow pintle, a bolt disposed in the hollow pintle and having a projection disposed for moving
 80 in the slot.

6. A hinge having knuckles, a hollow pintle disposed in the knuckles and open at both ends, a bolt disposed in the hollow
 85 pintle for extending through one of its ends, and means at the other end of the hollow pintle for limiting the movement of the bolt.

7. A hinge having knuckles, a hollow pintle disposed in the knuckles and having an end extending beyond the knuckles, there
 90 being a slot in the said end of the hollow pintle, a bolt disposed in the hollow pintle and having a projection disposed in the slot, and a collar having a slot, the collar being rotatably mounted on the said end of
 95 the hollow pintle to move its slot into and out of alinement with the slot in the hollow pintle.

8. A hinge having knuckles, a hollow pintle disposed in the knuckles and having
 100 an end extending beyond the knuckles, there being a slot in the said end of the hollow pintle, a bolt disposed in the hollow pintle and having a projection disposed in the slot, a collar having a slot, the collar being mounted
 105 to rotate on the hollow pintle at an end of the slot on the hollow pintle, to move the slot in the collar into and out of alinement with the slot in the hollow pintle, and resilient means disposed within the said end of
 110 the hollow pintle for holding the bolt extended at the other end of the hollow pintle.

9. A hinge having knuckles, a hollow pintle disposed in the knuckles and having
 115 an end extending beyond the knuckles, there being a slot in the said end of the hollow pintle, a bolt disposed in the hollow pintle and having a projection disposed in the slot, and a collar having a slot, the collar being rotatably mounted on the said end of the
 120 hollow pintle to move its slot into and out of alinement with the slot in the hollow pintle, the collar having a recess extending from its slot for receiving the projection on the bolt when the collar is rotated to hold
 125 the bolt in a predetermined position.

10. A hinge having knuckles, a hollow pintle disposed within the knuckles, a bolt
 130 disposed in the hollow pintle, a guideway in which the said bolt is normally disposed, a

support in the guideway for engagement by the bolt, and means to limit the withdrawal of the bolt to free the bolt from the support but to retain the bolt in the guideway.

- 5 11. A hinge having knuckles, a bolt disposed in the knuckles, a guideway in which the said bolt is normally disposed, a support in the guideway for engagement by the bolt, and means to limit the withdrawal of the
10 bolt to free the bolt from the support but to retain the bolt in the guideway.

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