

N. B. HURD.
HINGE.
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1,189,201.

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Fig 1

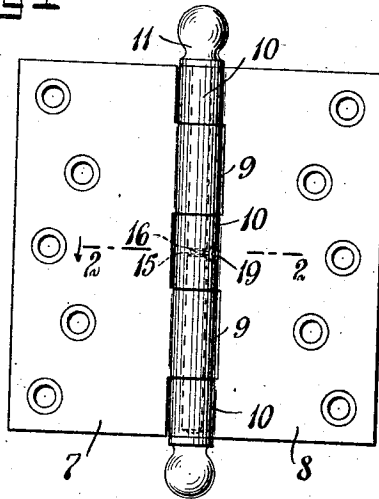


Fig 2

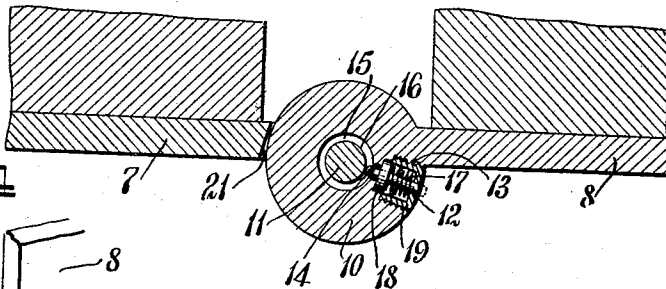


Fig 3

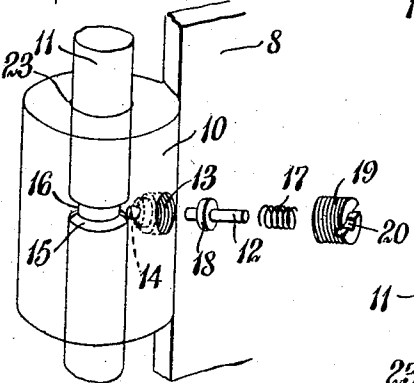
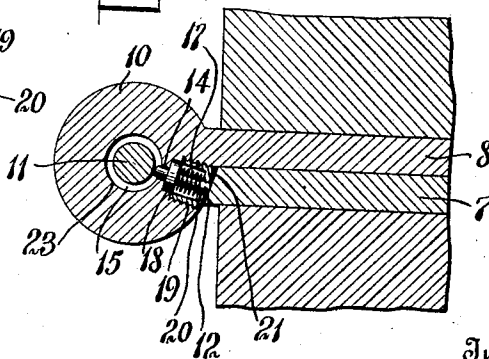


Fig 4



Inventor
Norman B. Hurd
By his Attorneys
Metcalf & Allen

UNITED STATES PATENT OFFICE.

NORMAN B. HURD, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE AMERICAN
HARDWARE CORPORATION, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF
CONNECTICUT.

HINGE.

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To all whom it may concern:

Be it known that I, NORMAN B. HURD, a citizen of the United States of America, residing at New Britain, Connecticut, have invented a new and useful Hinge, of which the following is a specification.

My present invention relates to hinges generally and it has for its objects to provide simple and practical means for retaining the hinge pintle in position and further to lock the pintle under certain conditions to prevent withdrawal of the same and consequent separation of the hinge leaves. These objects I have accomplished by the provision of a holding pin mounted in one of the hinge leaves and yieldingly engaging over a shoulder on the pintle to prevent the pintle working loose and becoming disengaged from the hinge leaves and by securing said pin in its holding position when the hinge occupies a given position, as for instance when the door to which it is applied is closed. The means for securing the locking pin in its holding position may consist according to the preferred form of the invention of a member or cam-like portion on one of the hinge leaves engaging over the exposed end portion of the locking pin mounted in the other hinge leaf.

Various other features of the invention and details of construction will appear as the specification proceeds, attention being directed to the accompanying drawing forming a part hereof wherein is illustrated the preferred form of the invention.

In said drawing: Figure 1 is a face view of a hinge embodying the invention. Fig. 2 is a horizontal sectional view of the same taken substantially on the plane of the line 2—2 of Fig. 1, showing the hinge applied to the mounting of a door with the door in the open position and showing in dotted lines the locking pin in the retracted position as when the pintle is being withdrawn. Fig. 3 is a view similar to Fig. 2 with the door in the closed position and the locking device actuated to lock the hinge pintle in position. Fig. 4 is a fragmentary partially transparent view illustrating the several parts of the locking device.

The two members or leaves of the hinge are designated 7 and 8, these leaves being shown provided with knuckles 9 and 10 to receive the hinge pin or pintle 11.

The locking device of this invention is in

the form of a pin 12 mounted in a seat 13 provided in a knuckle of one of the hinge leaves and projecting inwardly through a passage 14 into position to engage a shoulder 15 on the pintle. The locking shoulder on the pintle may be provided by simply forming an annular groove as indicated at 16, partially or entirely surrounding the pintle, the lower wall of said groove then providing the locking shoulder described. The locking pin is normally yieldingly pressed inward into engagement over the locking shoulder by a spring 17 coiled about the pin and engaging between a shoulder 18 adjacent the inner end of the pin and the shoulder provided by the plug 19 mounted in the outer end of the seat 13. The plug 19 may be formed as a screw plug closing the outer end of the seat or cavity in which the locking pin is mounted and may be provided with a central passage 20 there-through through which the outer end of the pin projects and is guided thereby.

As clearly shown in Fig. 2, in the normal open position of the hinge the locking pin is forced yieldingly inward into engagement over the locking shoulder on the pintle and the pintle is thereby yieldingly secured in this position coupling the two hinge leaves together. When however the hinge is closed as indicated in Fig. 3, or moved to any other position in which the parts are designed to lock the holding pin, the holding pin is positively locked in its holding engagement with the pintle by a cam-like holding portion 21 on the second hinge leaf engaging over the exposed end of the locking pin as indicated in Fig. 3. Under these conditions the locking pin is held in its inwardly projected position in engagement with the pintle and it is therefore under such circumstances impossible to withdraw the pintle. Before therefore the pintle can be withdrawn the hinge must be opened or moved to a position where the locking cam no longer overlies the projecting end of the locking pin.

To prevent loss or displacement of the locking pin when the hinge pintle is withdrawn, the shoulder 18 on said pin, against which the inner end of the spring bears may be formed as an outstanding collar as indicated, arranged by engagement with the inner end of the seat or cavity 13 to limit the inward movement of the locking pin.

This construction it will be seen prevents the spring from thrusting the locking pin inward into the hinge pin bore 23 when the hinge pin is withdrawn.

- 5 From the foregoing it will be apparent that my invention provides a simple and very effective means for securing and locking the hinge pintle and that the construction is one which can be inexpensively manufactured.

10 What I claim is:

1. In a hinge construction, hinge leaves, a hinge pintle pivotally connecting said leaves, a locking pin yieldingly engaging said pintle
15 to normally yieldingly secure said pintle and means adapted in a predetermined position of the hinge leaves to hold said locking pin in locking engagement with the pintle.

2. In a hinge construction, hinge leaves, a
20 pintle connecting said hinge leaves provided with a locking shoulder, a locking pin mounted in one of the hinge leaves and projecting inwardly into engagement with the shoulder on the pintle, a spring normally
25 holding said locking pin yieldingly engaged

with said locking shoulder and a projection on one of the hinge leaves engaging over the outer end of said locking pin in a predetermined position of the hinge leaves.

3. In a hinge construction, hinge leaves 20 having registering knuckles with a bore therethrough, one of said knuckles having a seat in one side thereof and a passage extending from said seat inwardly into the bore, a locking pin extending through said 25 passage into the bore and provided with an outstanding shoulder received in said seat and limiting the inward movements of said pin, a spring engaging said shoulder to normally thrust the locking pin inward, a plug 40 closing the outer end of said seat and provided with an opening for receiving and guiding the outer portion of the pin, a spring coiled about the locking pin and engaging between the shoulder thereon and the 45 inner side of said plug and a pintle seated in the bore in the registering knuckles and provided with a shoulder engaged by the inner end of the locking pin.

NORMAN B. HURD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."