

J. W. COWAN.
SEPARABLE SUSPENSION HINGE.
APPLICATION FILED MAY 13, 1913.

1,054,907.

Patented Mar. 4, 1913.

Fig. 1.

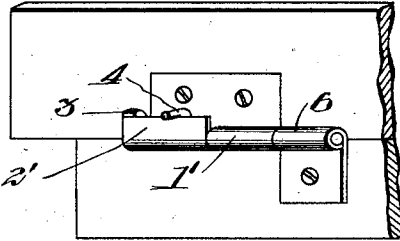


Fig. 2.

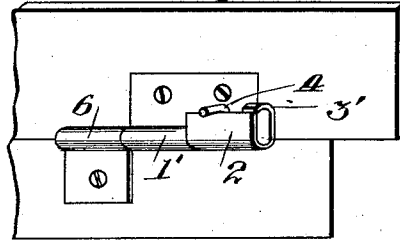


Fig. 3.

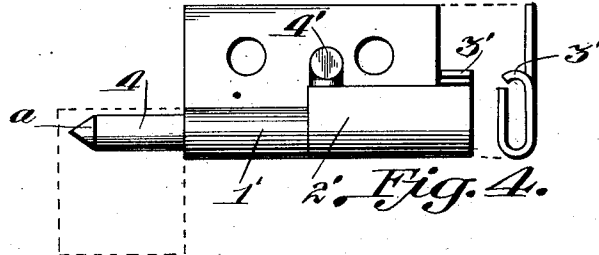
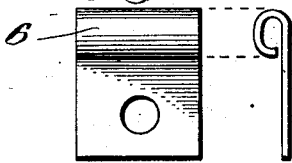


Fig. 5.

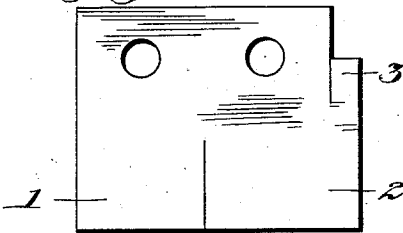


Fig. 6.

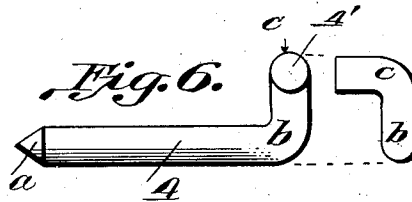


Fig. 7.

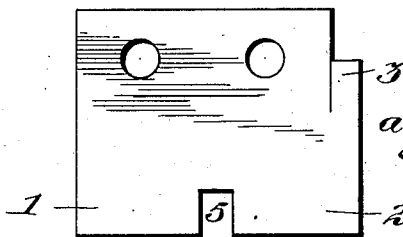
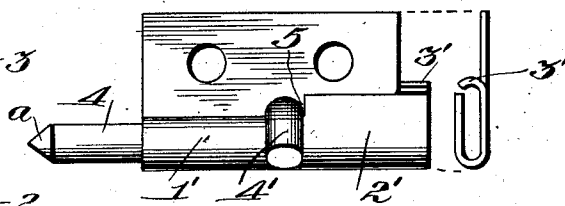


Fig. 8.



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SEPARABLE SUSPENSION-HINGE.

1,054,907.

Specification of Letters Patent.

Patented Mar. 4, 1913.

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To all whom it may concern:

Be it known that I, JOHN W. COWAN, a citizen of the United States, residing at Crete, in the county of Saline and State of Nebraska, have invented certain new and useful Improvements in Separable Suspension-Hinges, of which the following is a specification.

My invention relates to hinges designed for use with storm sash, window screens and other like objects which it is desired to suspend from a window frame or other fixed support, and its object is to provide a hinge which will permit the sash to be placed in position and hinged there more easily, quickly and conveniently than has hitherto been possible, and which will allow it to be unhinged and removed on occasion with equal facility. I attain this object by combining with one leaf of an ordinary loose-joint hinge, an extension consisting of an open knuckle continuous with the knuckle of said leaf, a pintle of special form adapted to move freely in the knuckle and its extension, and a bar across the end of the open knuckle limiting the motion of the pintle, all as hereinafter set forth.

In the accompanying drawings, wherein like notations refer to like parts throughout the several views:—Figures 1 and 2 are perspective views of portions of a sash and its frame, showing a pair of hinges in position as used. Fig. 3 is a plan and profile view of that leaf of the hinge which I preferably secure to the sash, and which is hereinafter called the lower leaf. Fig. 4 is a similar view of the upper leaf, showing also at the left in broken lines the manner in which this leaf is related to the lower leaf when in position. Fig. 5 is a plan view of the metal blank from which the hinge plate of the upper member seen in Fig. 4 may be struck up. Fig. 6 is a plan and profile view of the pintle. Fig. 7 is a plan view of a metal blank from which a modified form of my hinge plate may be struck up. Fig. 8 is a plan and profile view of the upper leaf of this modified form of my invention.

All the above drawings except Fig. 1 refer to a right hand hinge like that shown in Fig. 2, the left hand hinge in Fig. 1 being identical except that the parts are arranged and operated in the opposite direction. In constructing this hinge the lip, 1, of the metal blank, Fig. 5, is bent upward into the

knuckle, 1', which is identical in form and use with the knuckles of hinges in common use. The lip, 2, of the metal blank, is also bent upward to form an open knuckle, 2', with a curved bottom continuous with the bottom of the knuckle, but with a portion of the lip remaining unbent to form a perpendicular wall whose purpose will be made clear further on. The pintle, Fig. 6, is made of a small rod, whose end, *a*, is preferably pointed, and which is bent upward at a right angle at *b*, and again outward at a right angle at *c*, in such manner that when the pintle is placed in position in the leaf, Fig. 4, this bent portion will extend upward within the open knuckle, and outward over the top of its perpendicular wall, thus presenting a projecting arm or handle, 4, with which the pintle is operated. The small lip, 3, of the metal blank is now bent outward across the end of the open knuckle, forming a bar, 3', which arrests the movement of the pintle at the point where the end, *a*, is fully within the knuckle, and prevents its moving further and so falling out.

The operation and use of my hinge so constructed is as follows. When it is desired to place the sash in its frame the pintle is moved back until it is barred by 3', when the point, *a*, is entirely within the knuckle of the upper leaf. This allows the sash to be inserted into the frame without interference from the hinge, as freely as if the pintle had been withdrawn entirely. The sash once in position, a slight blow or push upon the projecting arm of the pintle drives it into the knuckle of the lower leaf, thus connecting up the two leaves of the hinge, and suspending the sash ready for use. When it is desired to remove the sash the operation is reversed. The pintle is driven back into its tube, disconnecting the hinge and freeing the sash to be removed and taken away at pleasure.

It will be seen that my hinge can be operated without touching it with the hand. The pintle can be moved with a rod or any convenient instrument, so that one can connect or disconnect the hinge while standing at some distance below. This is a great advantage, especially in the case of high windows, since one needs only to climb high enough to push the sash into position in its frame in any way most convenient and easy, when with a rod or long stick he can move

the pintle into place, connecting the hinge and completing the operation. There is thus no occasion to climb up beside the window until one can reach the hinge with the hand as with the ordinary loose joint hinge, nor is it necessary to stand on a ladder holding the sash in the air while hooking the hinges together,—an awkward and difficult, if not sometimes dangerous feat. With my hinge one can stand securely on the ground or on a ladder below the window, and hinge the sash in place easily and comfortably.

The modified form of my invention shown in Figs. 7 and 8 differs from that already described only in having a notch, 5, cut in the end of the perpendicular wall of the open knuckle 2. When the pintle is moved forward until the hinge is fully connected up, its projecting arm falls into the notch, 5, securely locking the pintle so that it cannot "creep", or work backward, to disconnect the hinge and allow the sash to fall from the frame. This device is believed to be unnecessary, but is here included that it may be resorted to in case its use shall, after experience, be found desirable.

It is understood that the hinge of my invention may be manufactured of any desired material, and that the size, shape proportions and ornamentation of the several parts may be varied at pleasure, without de-

parting from the principles or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is,—

1. In a hinge, the combination of a closed knuckle with an extension thereof consisting of an open knuckle continuous with the closed knuckle, and provided with a pintle movable therein and said pintle having a projecting arm rising out of and extending over the supporting side of the open knuckle, and said pintle provided also with a bar falling across the end of the open knuckle and limiting the movement of the pintle at the point where its point is wholly withdrawn within the closed knuckle, all substantially as set forth.

2. In a hinge, the combination of a pintle tube, 1', an open knuckle integral therewith, 2', a pintle having a projecting arm, and a bar 3', falling across the end of the open knuckle, with a notch in the perpendicular wall of the trough-like extension adapted to receive the projecting arm of the pintle and lock it in place, all substantially as described.

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Witnesses:

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