(Model.)

2 Sheets—Sheet 1.

A. SHEPARD.

HINGE.

No. 282,576. Patented Aug. 7, 1883.

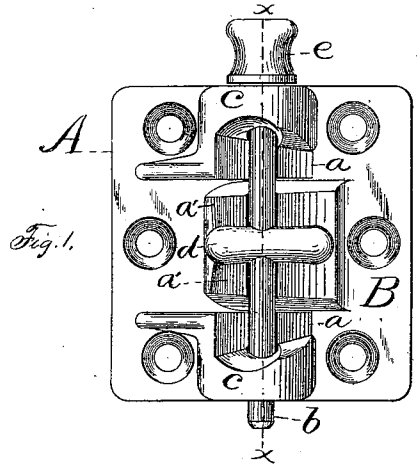


Fig. 1.

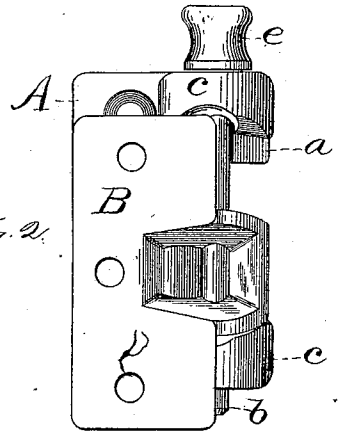


Fig. 2.

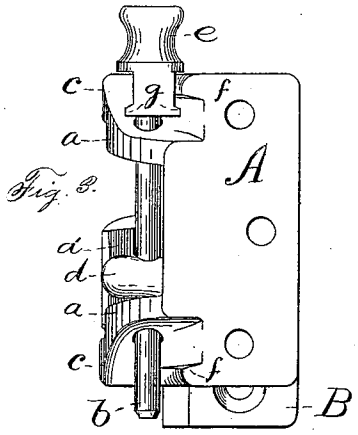


Fig. 3.

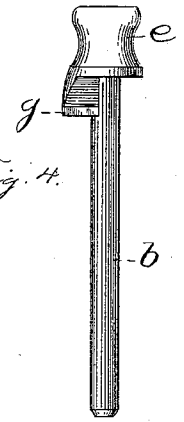


Fig. 4.

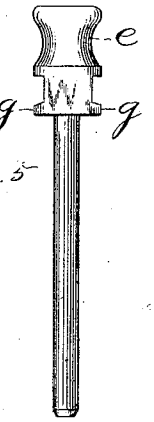
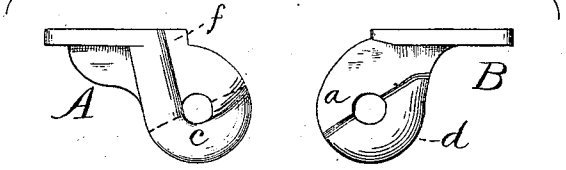


Fig. 5.

Fig. 6.



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(Model.) 2 Sheets—Sheet 2.

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No. 282,576. Patented Aug. 7, 1883.

Fig. 7.

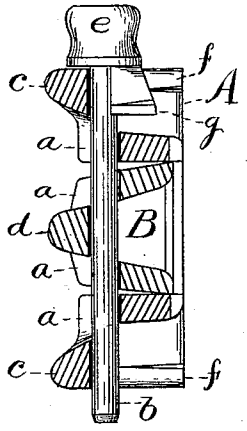


Fig. 8.

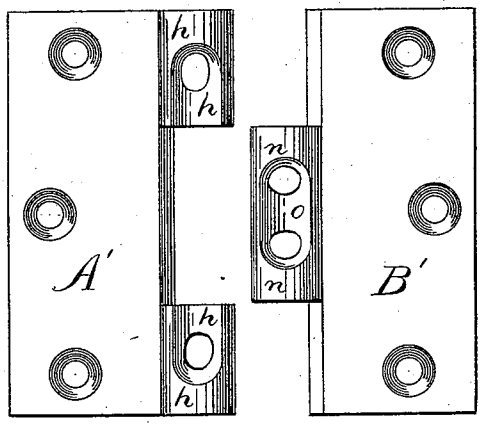


Fig. 9.

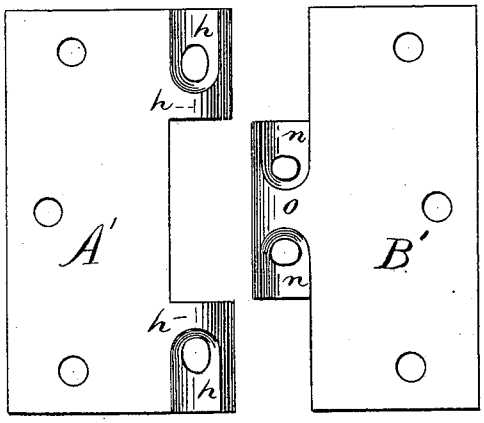
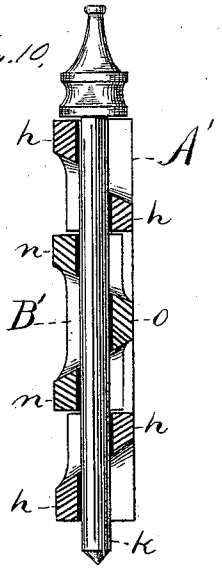


Fig. 10.



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UNITED STATES PATENT OFFICE.

AMOS SHEPARD, OF PLANTSVILLE, CONNECTICUT.

HINGE.

SPECIFICATION forming part of Letters Patent No. 282,576, dated August 7, 1883.

Application filed December 9, 1882. (Model.)

To all whom it may concern:

Be it known that I, AMOS SHEPARD, of Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Blind-Hinges, of which the following is a specification.

My invention relates to improvements in hinges for blinds and shutters; and the objects of my improvements are to produce a pair of hinge-leaves having three or more knuckles with open-pintle recesses, of such form that when cast they are adapted to receive without drilling a separately-formed pintle by means of which they are secured together, said open-pintle recesses also furnishing convenient access to the pintle for oiling it without taking the hinge apart, or even partially withdrawing the pintle; also, to provide the pintle and the end knuckles of my reversible hinge with peculiar means for securing the separately-formed and detachable pintle in place, whereby the act of inserting the pintle locks the pintle against endwise movement, as hereinafter described. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my hinge. Fig. 2 is a like view with one leaf swung around into the position it takes when the blinds are opened. Fig. 3 is a rear elevation of the same, with the leaves in the same position as in Fig. 2. Fig. 4 is a side elevation of the pintle for my hinge. Fig. 5 is a rear elevation of the same. Fig. 6 is a plan view of the two leaves of my hinge detached from each other. Fig. 7 is a vertical section of my hinge on line *x x* of Fig. 1. Fig. 8 is a front elevation of the two leaves of another style of hinge which embodies one feature of my invention. Fig. 9 is a rear elevation of the same; and Fig. 10 is a vertical section of said hinge-leaves connected together, the plane of section extending through the axis of said leaves, said figure also showing the pintle in elevation.

The hinge shown in Figs. 1, 2, 3, 6, and 7 is of that class which have oblique shoulders *a* formed on the knuckles of the respective leaves, so that when the blind is opened the blind and one half of the hinge drop down a little and the shoulders engage to hold the blind open. I form such shoulders at each end of the hinge, so that it may be placed either end uppermost, and thereby answer for both a right and a left hand hinge.

In order to make the hinge-leaves A B detachable from each other, for the purpose of detaching the blinds when desired, and in order to reverse the hinge, I provide the hinge with a loose pintle, *b*, having a head, *e*. The leaf A has two knuckles, and is designed to be secured to the window-casing. The shoulders *a a* have recesses in them to admit one side of the pintle, whereby the metal forming said shoulders bridges said pintle, and just outside of said shoulders I form bridges *c*, which are hollowed out upon their back sides, to admit the opposite side of the pintle, as shown in Figs. 3, 6, and 7. The leaf B has only one knuckle, and is formed with a central bridge, *d*, which embraces the pintle upon one side, and upon each side of the bridge are the shoulders *a'*, with recesses which embrace and bridge the opposite side of the pintle. These bridges are so formed in both leaves that a blank space or opening is diametrically opposite each bridge or shoulder, whereby the knuckle with the pintle-recesses and pintle-bearings may be readily formed by casting, as shown most clearly in Fig. 7.

By reference to the several figures of the drawings it will be seen that the pintle-recesses open at the sides of the knuckle, and that said openings are wide enough at their narrowest point to embrace the pintle—that is, they are wider than the diameter of said pintle—and they flare outward, so that they can be drawn from the mold and form the pintle-bearings, not by casting merely, but by casting in a two-part flask without a core.

At each end of the hinge-leaf A, by the side of the opening on the back, I form a rib or shoulder, *f*, and upon the pintle-head I form a downwardly-projecting wing, with a hook or shoulder, *g*, upon each side. After the castings are obtained the leaves are placed together and the pintle is inserted from the upper end. The hook or shoulder *g* upon the pintle will hook under the rib or shoulder *f* on the hinge-leaf and prevent the pintle from accidentally working out of place. I prefer to form the opening back of the bridges *c c* and the hooks

or shoulders *g* on the pintle of such relative sizes that the latter will have only just room enough to pass downward into place. I also form the side wall of said opening which is opposite the rib or shoulder *f* inclined inwardly, as it extends down below said shoulder, (see Fig. 3,) so that one hook or shoulder, *g*, will bear against said incline and force the opposite hook or shoulder underneath the rib or shoulder *f*. By reason of this construction the pintle can only be removed by giving it a slight turn on its axis while it is being withdrawn. In order to reverse the hinge, it is only necessary to withdraw the loose and reversible pintle and insert it from the opposite end, and then secure the hinge in place with the pintle-head uppermost, thereby inverting the hinge-leaves.

In Figs. 8, 9, and 10 I have shown one feature of my invention as applied to a hinge which has no drop motion. A′ designates the leaf with two knuckles, and B′ that with only one. The knuckles of the leaf A′ are each composed of two bridges, *h h*, recessed upon their insides to receive the pintle *k*, each bridge being diametrically opposite an opening, as shown, and embracing the pintle upon opposite sides. The knuckle of the leaf B′ is composed of three bridges, two of which, *n n*, embrace the pintle upon one side and the other, *o*, embraces it upon the opposite side, as shown. This style of hinge may be cast with the pintle-recesses ready to receive the pintle without drilling, the same as in the hinge first described herein. It is evident that the same construction may, if desired, be embodied in a hinge having more than three knuckles. The pintle *b* may be applied to this hinge, if desired, or it may have its pintle inserted and secured within its knuckles in any ordinary manner.

In this style of hinge having no drop motion care must be taken to make the open-pintle recesses of less width than the solid portions at the end of the confronting knuckles, so that the solid portion of one knuckle shall always be opposite a solid portion upon the confronting end of the adjoining knuckle, and thereby prevent an endwise movement of one leaf independently of its companion leaf.

I am aware that prior patents show blind-hinges having a pintle or pintles rigidly attached to one solid leaf, or made integral therewith, and with the companion leaf for use on said pintle having a middle knuckle with open-pintle recesses located diametrically opposite bridges; also, hinges having stop-shoulders, which are made to lock by a drop motion of one leaf upon the other; also, that some of said hinges have been made reversible; also, that a prior patent shows a hinge consisting of a loose reversible pintle, a leaf having stop-shoulders at each end of its single knuckle, and a companion leaf having a knuckle at each end and a stop-shoulder at the confronting faces of said knuckles. I am also aware that a prior patent shows a loose pintle-hinge with a side projection on the pintle, which takes under a shoulder in a side notch of a vertical slot formed at the ends of one leaf, for preventing the pintle from working out of place. All of said prior art is hereby disclaimed.

I claim as my invention—

1. As a new article of manufacture, the herein-described hinge, consisting of a pair of leaves having three or more knuckles with open-pintle recesses cast therein of the form herein shown and described, and adapted, when thus cast, to receive, without drilling, the separately-formed pintle and to be properly secured together thereby, substantially as described, and for the purpose specified.

2. In a reversible hinge, the combination of the pintle having the engaging hooks or shoulders upon its opposite sides, and companion leaves, one of which is provided with a knuckle at each end having bridges upon one side of its pintle-bearings, and diametrically opposite said bridges open-pintle recesses which are wider than the diameter of the pintle, the recesses that extend to the opposite ends of the leaf being provided upon one side with the rib or shoulder *f* and upon the opposite side with an incline, substantially as described, and for the purpose specified.

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Witnesses:

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A. T. BISHOP.