B. F. MINNIS.

HINGE.

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1,185,233.

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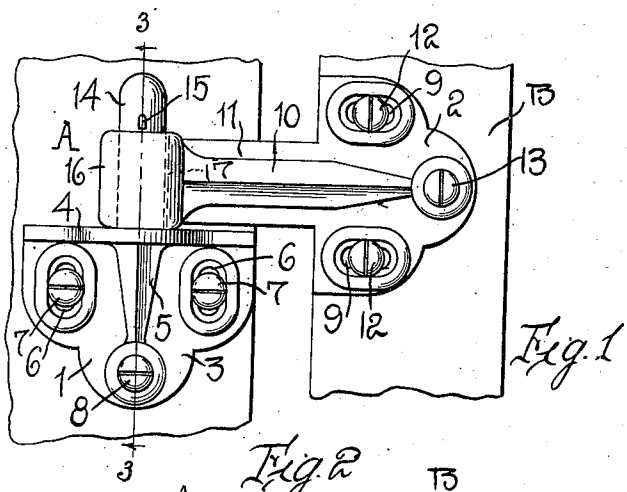

Fig. 1

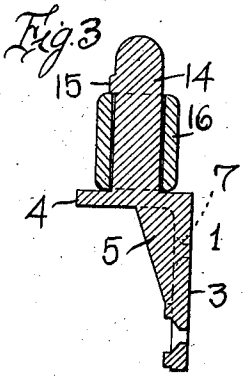

Fig. 3

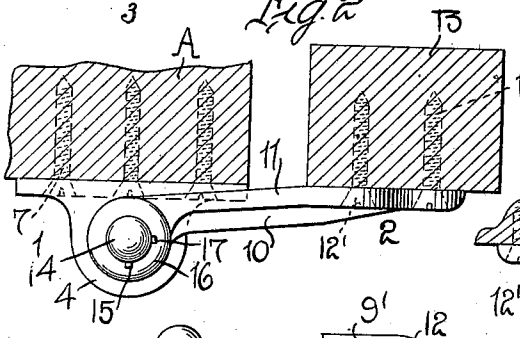

Fig. 2

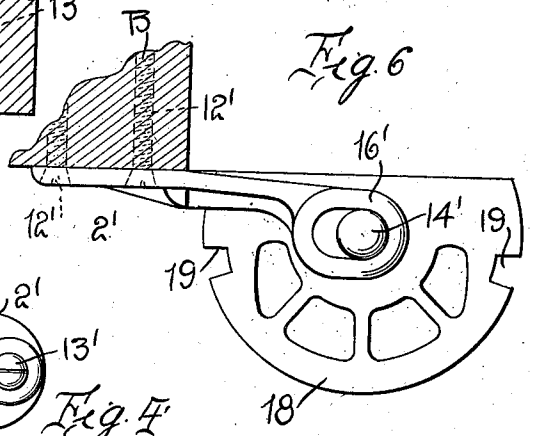

Fig. 6

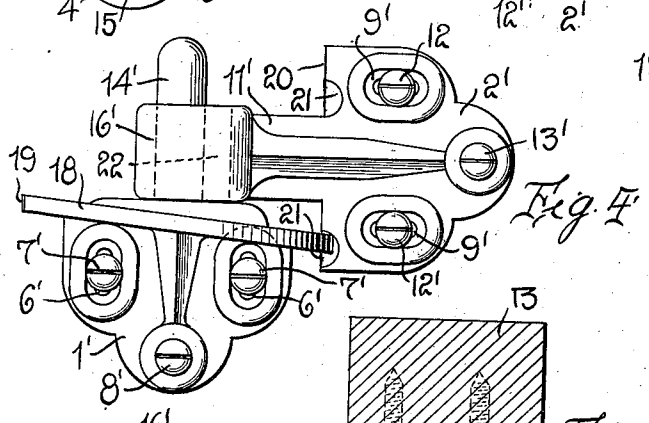

Fig. 4

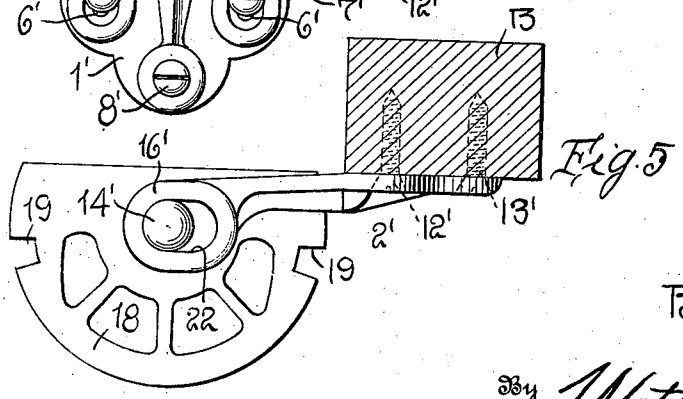

Fig. 5

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HINGE.

1,185,233. Specification of Letters Patent. Patented May 30, 1916.

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To all whom it may concern:

Be it known that I, BENJAMIN F. MINNIS, a citizen of the United States, residing at Port Gibson, in the county of Claiborne and State of Mississippi, have invented certain new and useful Improvements in Hinges, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to hinges and has particular reference to a hinge which is especially designed for hanging shutters although it may be used for a variety of other purposes.

One object of the invention resides in the provision of means whereby the hinge may be initially secured to an object and may then be adjusted laterally or vertically before it is permanently secured in place to thereby save time, trouble, labor and expense in accomplishing this operation.

Another object of the invention is to provide a hinge of this character which will be composed of a minimum number of parts which are readily reversible so that the same may be used upon shutters or other like objects swinging on either side of a fixed support such as a window frame.

A further object of the invention resides in the provision of a hinge including a fixed section and a swinging section laterally movable with respect thereto, means of a novel nature being provided whereby the swinging section may be locked against swinging movement with respect to the fixed section upon laterally moving the same.

A further object of the invention is to provide a hinge of this character which will be simple in construction and operation, and which will be thoroughly reliable and efficient in use as well as being cheap to manufacture.

With the foregoing and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In the drawings, Figure 1 is a front elevation of one embodiment of the improved hinge; Fig. 2 is a plan view of the same; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is a view similar to Fig. 1 of another embodiment of the invention; Fig. 5 is a plan view of the structure shown in Fig. 4; and Fig. 6 is a view similar to Fig. 5 showing the hinge reversed and the blind in a closed position.

Referring to the drawings by numerals and more particularly to Figs. 1, 2 and 3, wherein is illustrated one preferred embodiment of the invention, A designates a portion of a window frame and B a portion of a shutter. The improved hinge for mounting the shutter upon the frame for swinging movement so as to open or close the window opening, consists essentially of the sections 1 and 2, the first of which will be termed the fixed or permanent section, and the second the swinging or movable section. Now while the construction and operation of the hinge will be described in connection with a window frame and a shutter therefor as best illustrating the advantages of the improved hinge, I wish it to be understood that the same is by no means limited to this use as it would be found equally as efficient for various other purposes.

In detail the permanent section 1 comprises a base plate 3 which is formed in any suitable manner from any desired material, and this base plate has extending outwardly from its upper edge a flange 4 which is connected with the base proper and rigidly supported thereby by means of the web 5. To either side of the web this base plate has formed therein vertically extending elongated slots 6 which are preferably counter-sunk to receive the heads of fastening elements such as screws or the like 7. Intermediate and below the elongated slots 6 this base plate is provided with a countersunk opening of a size to snugly receive the head of another fastening element such as a screw 8. In applying this section to a window frame or the like, the screws 7 are first passed through the elongated slots 6, and threaded into the material of the frame, being drawn down until the plate is firmly secured to the frame but is permitted of vertical movement by reason of the elongated slots relatively thereto. Now by adjust this plate vertically the same may be positioned at any desired point upon the frame and the screw 8 may then be drawn down to permanently lock the plate in place. By this arrangement, it will be noted that it is only necessary to obtain an approximate positioning of the fastening elements 7 in applying the plate to the window frame

or other object, and that the plate may then be adjusted to a desired position, and each of the fastening elements drawn down tightly to clamp the same in place.

The second or swinging section 2 is of substantially similar construction to the section 1, in that the elongated horizontally extending slots 9 are provided to either side of a strengthening web 10 for an arm 11 which extends laterally from one edge of the plate, and these slots are adapted to receive in a manner similar to the slots of the first section fastening elements in the nature of the screws 12. These screws are first inserted through the slots and then threaded into the side bar of the shutter to initially secure the second section in place after which it may be adjusted to a desired position, and permanently secured by means of the screw 13 which operates in a manner similar to the screw 8.

The flange 4 of the first section has extending upwardly therethrough a pin 14 which is of a length slightly greater than the width of the arm 11, and this pin has formed thereon or secured thereto in any suitable manner a lug 15 which has its lower face spaced from the upper face of the flange 4 a distance corresponding to the width of the arm 11.

The arm 11 is of any suitable length and terminates in a knuckle 16 which has an opening formed therein of a diameter to permit the same to be passed over the pin 14 and to permit of its free swinging movement thereon. This knuckle is provided with a vertically extending slot 17 which opens into the pin receiving opening, and this slot is adapted to be alined with the lug 15 when the knuckle is to be passed over the pin 14 to pivotally connect the sections for swinging movement. This permits the knuckle to be passed downwardly on the pin 14 until its lower face abuts the upper face of the flange 4. Then by rotating the second section upon the first section to disaline the lug from the slot the lug will function to prevent removal of the second section from the first section. The slot is preferably so positioned in the knuckle that the lug 15 will not ride thereover when the shutter is swung from an open to a closed position or vice versa.

In Figs. 4, 5 and 6 of the drawing a slightly different structure has been shown whereby the shutter may be locked in an open position. The first or permanent section 1′ is provided with the elongated slots 6′ and fastening elements 7′ and 8′. A flange 18 is provided which, while of a substantially similar construction to the flange 4, is arranged in a slightly different manner. This flange extends from the upper edge of the base plate and is of substantially semi-circular shape being described arcuately from the pin 14′ as a center. This flange is also arranged at an angle so that the edge of the same adjacent one side of the base plate 1′ will lie in a plane below the plane of the edge adjacent the opposite side of the base plate. At suitable points upon its peripheral edge this flange is further provided with a pair of recesses 19 which are arranged in an exact manner one to either side of the pin 14′, as illustrated to advantage in Fig. 5 of the drawings. The second section 2′ is of a construction substantially similar to that of the second section of the first embodiment of the invention inasmuch as the elongated slots 9′ are provided to receive the fastening elements 12′ which are adapted to be operated in a manner as set forth in connection with the fastening elements 12, the screw 13′ being provided to permanently secure this section in place after it has been adjusted to a desired position. In applying the section 2′ to the side bar of the shutter the vertical edges 20 extending above and below the arm 11′ are arranged a slight distance beyond the edge of the side bar of the shutter and upon the outer face of this base plate adjacent each of these vertically extending edges lugs 21 are provided for a purpose which will presently appear, one of the lugs being arranged adjacent the arm 11′ and the other being arranged adjacent one outer edge of the base plate. The arm 11′ is provided at its outer end with a knuckle 16′ which is substantially similar in construction to the knuckle 15 inasmuch as a vertically extending opening 22 is provided therein to receive the pin 14′. Instead, however, of this opening being of a size to snugly receive the pin, it is elongated so that the second section is permitted of lateral movement relatively to the first section.

When the sections are connected as shown in Fig. 4 of the drawings for swinging movement, the outer edge of the arcuately shaped flange 18 will engage with the outer face of the vertical edge base plate 2′ below the arm 11′. In this position the lower lug 21 will span the recess 19 in this side of the flange to prevent the second section from being moved laterally with respect to the first section. By reason of the angular disposition of the flange 18, however, lateral movement of the second section relatively to the first section will be permitted when the second section is swung to a position diametrically opposite to the position in which it is shown. By moving the second section laterally after having been swung as just mentioned, the recess 19 to the opposite side of the flange 18 will receive the portion of the base plate 2′ directly beneath the arm 11′ and thus prevent the swinging movement of the sections and lock the second section in an open position

with respect to the first section. By arranging the other lug 21 relatively close to the arm 11′ it will be obvious that the second section may be removed from the pin 14′ and may be reversed thereon so that when the second section is swung to an open position, a portion of the base plate 2′ will be permitted to engage with the second recess 19 upon laterally moving the second section. In this connection it is also to be noted that the second section as shown in Fig. 1 of the drawings may also be removed from the pin 14 and may be reversed so as to swing thereon from either right or left or by vice versa.

By the use of a hinge as just described upon shutters or the like, it will be noted that the sections of the same may be secured to the frame and the shutter and may then be adjusted to desired positions and permanently fastened in place. It will also be noted that the shutters may be locked simply and easily in open position and may be released from such locking position by merely moving the shutter slightly laterally, and that any one of a number of hinges of this character or all of the same may be reversed should occasion arise to make such desirable.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the construction, operation and advantages of the improved hinge will be clearly understood, and while I have herein shown and described certain specific embodiments of my invention, I do not wish to be limited thereto except for such limitations as the claim may import.

I claim:

A hinge including a pair of sections one of which is carried by the other for swinging movement, each of said sections being provided with means for attaching them to objects, said means serving for adjusting the objects relative to each other, separate means for securing the sections upon the objects after adjustment, a pin carried by one of said sections, a knuckle carried by the other said knuckle being provided with an opening to receive the pin and with a slot extending throughout the length of the opening, and opening therein, and a lug carried by said pin to be alined with the slot when the sections are to be connected or disconnected, said lug serving to prevent removal of the second section from the first section when the knuckle is arranged upon the pin.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

BENJAMIN F. MINNIS.

Witnesses:
JOS. DAVENPORT,
C. E. MASON.

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