

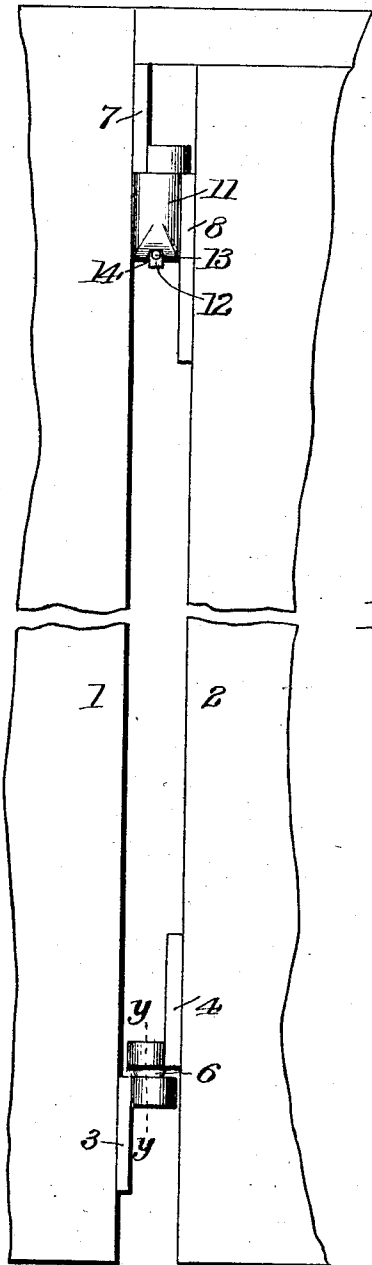
C. KEITH, G. F. LISTER & J. M. EDMONDSON.
DOOR HINGE.

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1,053,829.

Patented Feb. 18, 1913.

Fig. 1.



WITNESSES

C. H. Walker,
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Fig. 2.

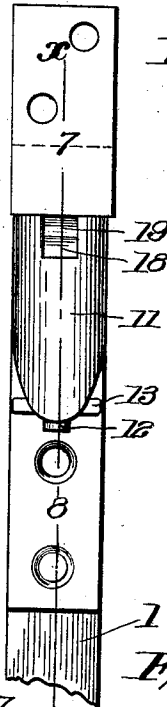


Fig. 3.

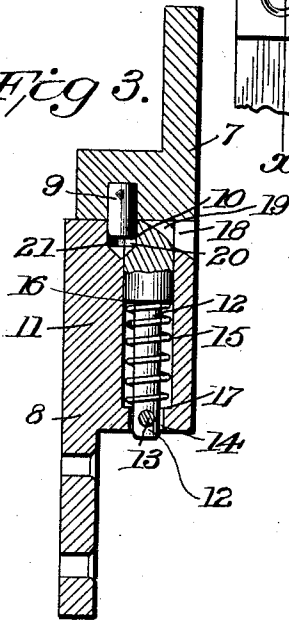


Fig. 4.

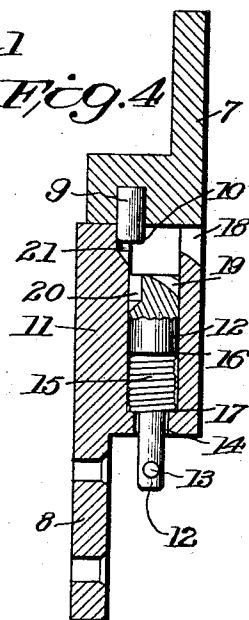
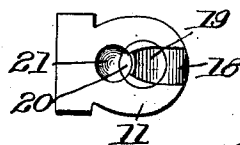


Fig. 5.



INVENTORS

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UNITED STATES PATENT OFFICE.

CALVIN KEITH, GEORGE F. LISTER, AND JOHN M. EDMONDSON, OF MANSFIELD, OHIO.

DOOR-HINGE.

1,053,829.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed March 12, 1912. Serial No. 683,280.

To all whom it may concern:

Be it known that we, CALVIN KEITH, GEORGE F. LISTER, and JOHN M. EDMONDSON, citizens of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Door-Hinges; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to hinges for hanging various kinds of doors and also useful on blinds and screens.

It has for its object to provide an improved hinge, parts of which may be quickly disconnected for taking down the door or blind without the necessity of removing screws or other permanent fastening means.

Another object is to provide a hinge which can be assembled automatically without the necessity of touching any of its parts, thereby leaving both hands free to grasp the door when hanging the same.

It is also our aim to produce a hinge of the kind described which cannot be assembled so as to hold together except in one position when its parts are securely locked together. This makes it impossible to hang the door improperly or insecurely.

Further objects will become apparent from the following description.

The invention also consists in the features of construction and combinations of parts hereinafter described, illustrated in the accompanying drawings and specified in the appended claims.

In the accompanying drawings: Figure 1 is a broken front elevation of a door and jamb showing a pair of our improved hinges attached thereto. Fig. 2 is a side view of the upper hinge, the portion of the door to which it is secured being shown. Fig. 3 is an enlarged sectional view through the upper hinge taken on the line $x-x$ of Fig. 2. Fig. 4 is a similar view showing the spring-pressed locking pin in its lowered position. Fig. 5 is an upper end view on an enlarged scale of the member of the upper hinge carrying the locking pin.

Referring more particularly to Figs. 1 to 5, inclusive, of the drawings, 1 designates the door and 2 the jamb to which our hinges are applied. The lower hinge comprises two brackets 3 and 4, respectively, of any

desired or preferred shape, connected by pintle 6, the bracket 3, being attached to the jamb. The upper hinge is also composed of two brackets 7 and 8, respectively, likewise made in any suitable or desirable form. The bracket 7, which is secured to the jamb, is equipped with a straight downwardly projecting lug 9 having its lower end preferably rounded, as at 10, see Figs. 4 and 3. The bracket 8 of the upper hinge carries a vertical casing 11 in which a longitudinally movable locking pin 12 is fitted. The lower end of said locking pin projects below the casing and is provided with oppositely extending lateral projections 13 which normally engage the transverse groove or notch 14 in the lower end of said casing. The locking pin is normally held in its upper or raised position by a spring 15 mounted around the lower portion of said pin and abutting at its opposite ends against shoulders 16 and 17 formed respectively on the pin and on the interior of the casing. The edges of the groove or notch 14 are rounded so that the opposite projections 13 are adapted to ride along and down them when the locking pin is turned by grasping said projections. The upper end of the locking pin is normally flush with the top of the casing when said pin is in its raised position. A slot 18 is cut in the front of the casing entering from the top thereof and extending vertically downward a distance somewhat greater than the length of the lug 9. The upper end of the locking pin has an oblique groove 19 formed therein and adapted to register with the slot 18 when said pin is in its normal raised position. Diametrically opposite said groove, there is formed in the upper end of the locking pin a portion 20 of a socket for the lug 9, the supplemental portion 21 of said socket being formed in the casing, see Figs. 3 and 5.

It will be noted that the turning of the locking pin by means of the opposite lateral projections 13 will withdraw the upper end of said locking pin from engagement with the lug 9, thereby leaving the upper hinge free to be separated, the lug passing out through the slot 18 in the casing as the door is taken down. The locking pin is retained in its lowered position by the projections 13 engaging the portion of the lower end of the casing midway between the ends of the groove or notch 14. When the locking pin is in its normal raised po-

sition with its oblique groove 19 registering with the slot 18 in the casing, the upper hinge may be assembled automatically by forcibly engaging said groove with the lug 9 whereby said locking pin will be withdrawn against the action of the spring as said lug rides up said groove and snaps into place in its socket. It will be understood, of course, that the conical lug of the lower hinge is seated in its socket before the upper hinge is assembled in the manner just described.

While we have shown the socket for the lug 9 formed partially in the locking pin and partially in the casing, it will be understood that said socket may be formed wholly in one or the other of said parts without sacrificing the advantages of my invention. The right is reserved to make such further changes in the preferred construction herein shown and described as may fairly fall within the scope of our invention.

We claim:

1. A hinge comprising a member provided with a lug, and a supplemental member having a socket for said lug and carrying a casing provided with a slot in its end, a spring-pressed locking pin mounted in said casing between said slot and socket and provided with an inclined groove in its end normally registering with said slot whereby said locking pin may be automatically withdrawn when said inclined groove therein is forcibly engaged therewith for admitting said lug to its socket.

2. A hinge comprising a member provided with a lug, and a supplemental member having a socket for said lug and carrying a casing provided with a slot in its end, a spring-pressed locking pin mounted in said casing between said slot and socket and provided with an inclined groove in its end normally registering with said slot whereby said locking pin may be automatically withdrawn when said inclined groove therein is forcibly engaged therewith for admitting said lug to its socket, and means to manually withdraw said locking pin.

3. A hinge comprising a member provided with a lug, and a supplemental member having a socket for said lug and carrying a casing provided with a slot in its end, a spring-pressed locking pin mounted in said casing between said slot and socket and provided with an inclined groove in its end normally registering with said slot whereby said locking pin may be automatically with-

drawn when said inclined groove therein is forcibly engaged therewith for admitting said lug to its socket, means to manually withdraw said locking pin, and means to secure said pin in its withdrawn position.

4. A hinge comprising a member provided with a lug, and a supplemental member carrying a casing provided in its end with a slot and a partial socket for said lug, a spring-pressed locking pin mounted in said casing and provided in its end with an inclined groove, normally registering with said slot, and with a partial socket which coöperates with a partial socket of the casing to form a seat for said lug, the uncut part of the end of said pin normally separating said slot from said socket, said spring-pressed locking pin being automatically withdrawn for admitting the lug to its socket when said inclined groove is forcibly engaged with said lug.

5. A hinge comprising a member provided with a lug, and a supplemental member having a socket for said lug and carrying a casing provided with a slot in its end, a spring-pressed locking pin mounted in said casing and normally separating said slot from said socket, said casing provided with a notch having a sloping edge, said pin provided with a lateral projection normally seated in said notch but adapted to be turned out of the same by riding up its sloping edge whereby said pin is withdrawn admitting the lug to its socket.

6. A hinge comprising a member provided with a lug, and a supplemental member having a socket for said lug and carrying a casing provided with a slot in its end, a spring-pressed locking pin mounted in said casing and normally separating said slot from said socket, said pin projecting beyond the other end of the casing, the latter provided with a transverse groove in that end having sloping edges, oppositely extending lateral projections on the end of said pin and normally engaging said groove, said projections adapted to be turned out of said groove by riding up its sloping edges whereby said lug is admitted to its socket.

In testimony whereof, we affix our signatures, in presence of two witnesses.

CALVIN KEITH.

GEORGE F. LISTER.

JOHN M. EDMONDSON.

Witnesses:

BLANCHE WEST,
T. B. JARVIS.