(No Model.)

C. F. DEPLANTY & E. E. WILSON.

ADJUSTABLE STAY FOR DOORS.

No. 588,962. Patented Aug. 31, 1897.

FIG. 1.

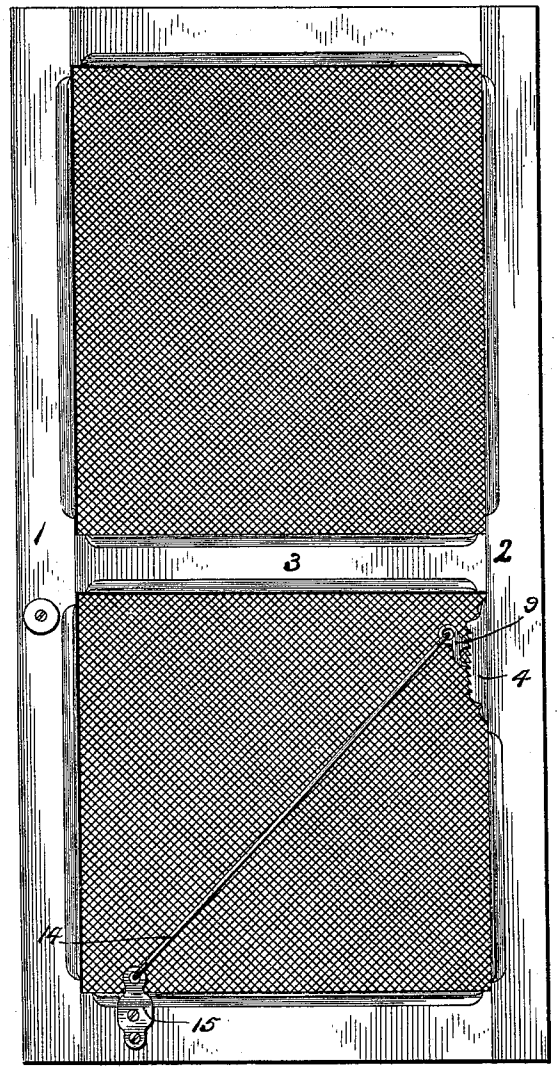


FIG. 2.

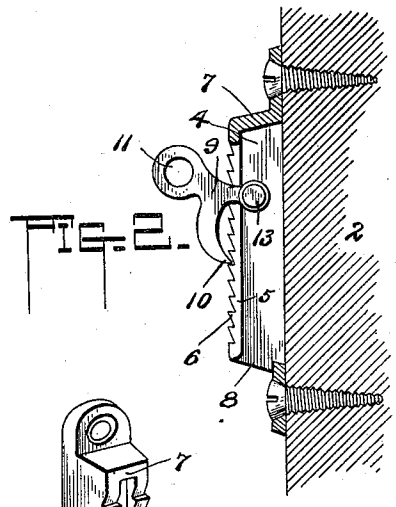


FIG. 3.

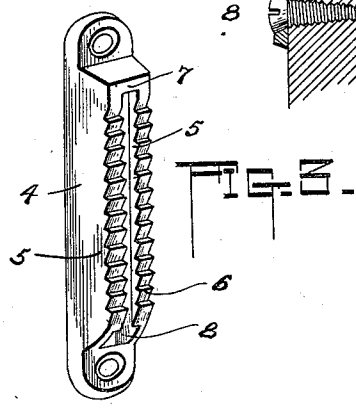


FIG. 4.

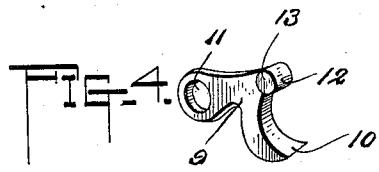
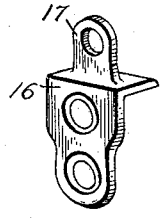


FIG. 5.



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UNITED STATES PATENT OFFICE.

CHARLES F. DEPLANTY AND ELMER E. WILSON, OF COFFEYVILLE, KANSAS, ASSIGNORS OF ONE-FOURTH TO LEWIS MCNEAL, OF SAME PLACE.

ADJUSTABLE STAY FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 588,962, dated August 31, 1897.

Application filed May 22, 1896. Serial No. 592,594. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. DEPLANTY and ELMER E. WILSON, citizens of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented a new and useful Adjustable Stay for Doors, &c., of which the following is a specification.

This invention relates to adjustable stays or braces for screen and other doors, gates, &c.; and the object in view is to provide an inexpensive and efficient device of this character which may be readily applied to any kind of door or gate and adjusted for the purpose of taking up any sag in the door and allowing the same to swing freely while being opened or closed.

The device is so constructed and arranged that its working parts are not subject to rust or liable to be rendered inoperative from exposure to the elements.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in elevation of a screen-door, illustrating the application of the improved stay thereto. Fig. 2 is a sectional view through the hinge-stile of the door or gate, taken also through the keeper of the stay and showing the manner in which the dog engages therewith. Fig. 3 is a detail perspective view of the keeper. Fig. 4 is a perspective view of the dog. Fig. 5 is a similar view of the eyepiece of the improved stay.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a door which, for the purpose of showing the present invention, is in the form of a screen-door, although it will be apparent, of course, that the improved stay or brace may be used upon any kind of door or gate.

To the inner edge or face of the hinge-stile (indicated in the drawings at 2) and just beneath the middle or lock-rail 3 is secured a keeper 4. This keeper is preferably of oblong form, being extended in length vertically and provided at its ends or at any convenient point with perforated ears, by which the keeper may be secured, with the aid of suitable fasteners, to the door or gate.

The keeper 4 is provided with spaced flanges 5 of substantially L shape in cross-section and toothed, notched, or serrated upon their outer faces, as shown at 6. These flanges are preferably connected and braced at their upper ends by means of a cross-web 7. Such web is omitted at the lower ends of the flanges, so as to form an entrance-opening 8 for the admission of the lateral studs on the dog hereinafter referred to. This entrance-opening communicates with the space between the flanges 5, such space constituting a vertical slot in which the body or shank of the dog is adapted to move longitudinally.

The dog (indicated at 9) is of elbow form and comprises, essentially, the engaging tongue or lip portion 10, which is sharpened or brought to an edge, so as to insure its engagement with the teeth or notches of the keeper, and said dog also comprises an eye or perforated extension 11, arranged when in position in a higher plane than the point or lip of the dog, substantially at a right angle thereto. The dog also comprises at its elbow another extension 12, which is formed with oppositely-extending lateral studs 13, which when the dog is engaged with the keeper rest inside of or behind the flanges 5 and form the fulcrum upon which the dog may rock.

14 indicates a rod or piece of wire forming the stay or brace proper, which connects loosely with the eye of the dog and extends from thence obliquely downward and outward toward the swinging end of the door or gate, connecting at its opposite end with a metal eyepiece 15, secured in any convenient manner to the bottom rail of the door or gate near the outer or swinging end thereof. This eyepiece 15 is composed of an Γ-bracket 16 and a lug 17, the latter being located centrally of the short member of the bracket and having an eye to receive the lower end of the brace 14. The long member of the eyepiece has openings for the passage of fastenings by means of which it is secured to the lower rail of the door, the short member extending over the edge of the rail and serving as a stay.

The brace 14, being made in one piece, may be composed of either fine or stout wire, according to the size and weight of the door and the consequent strain which is to be placed thereon. In ordinary screen-doors, to which the present improvement is especially applicable, this brace or stay wire may be of a very small gage, so that its presence will scarcely be noticeable.

In operation and in the application of the device to a sagging door or gate the keeper 4 and the eyepiece 15 are fastened to the door, as above noted, so that the point or lip of the dog will engage the lowermost notch or tooth of the keeper. By now moving the dog upward one, two, or more notches, and at the same time lifting or elevating the swinging edge of the door, the said dog, by reason of its engagement with the keeper in its adjusted position will hold the swinging edge of the door elevated clear of the sill, so that it will swing freely. Should the door or gate again sag, the dog may be moved upward another notch or two for again elevating the swinging edge of the door.

By reason of the eye of the dog being arranged in a higher plane than the engaging lip of the dog and also the fulcrum the weight of the outer edge of the door will be transmitted through the stay rod or wire 14 to the eye of the dog and will serve to retain the dog in engagement with its keeper.

It will be noted that no screw threads or nuts are employed with their incidental liability to rust, thus rendering the device inoperative or incapable of being adjusted, but that, on the contrary, the working parts of the device are of such a nature as to preclude their being rendered inoperative by exposure to the elements.

The device is also located within the plane of the door, and thus affords no objectionable projection beyond the surface thereof.

It will be understood that the device is susceptible of changes in the form, proportion, and minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

The combination with a screen or other door, of the herein-described means for preventing sagging thereof and bracing and staying it, consisting of a slotted keeper applied to the inner edge of the hinge-stile and having corresponding teeth on opposite sides of the slot, an elbow-dog having a rear extension at the elbow to operate in and pass through the slot of the keeper, and having lateral studs at its inner end to engage with the keeper on opposite sides of its slot, the lower member of the dog engaging with the teeth of the keeper, an angle-bracket secured to the lower rail of the door with its short member extending over the upper edge of the said rail, and formed with a centrally-disposed apertured lug, and a brace connecting the apertured lug with the vertical arm of the elbow-dog, whereby the strain is imposed upon the dog above its fulcrum, thereby holding its lower arm in positive engagement with the slotted keeper, substantially as shown and described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES F. DEPLANTY.
ELMER E. WILSON.

Witnesses:
J. W. UNCAPHER,
LUTHER B. MYERS.