Sept. 9, 1930. J. N. BERTRAND 1,775,116

DOOR FASTENER

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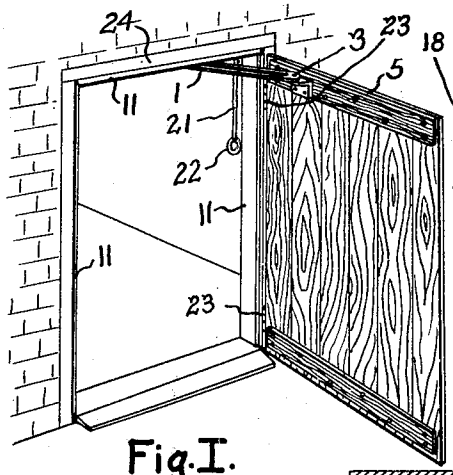


Fig. I.

Fig. III.

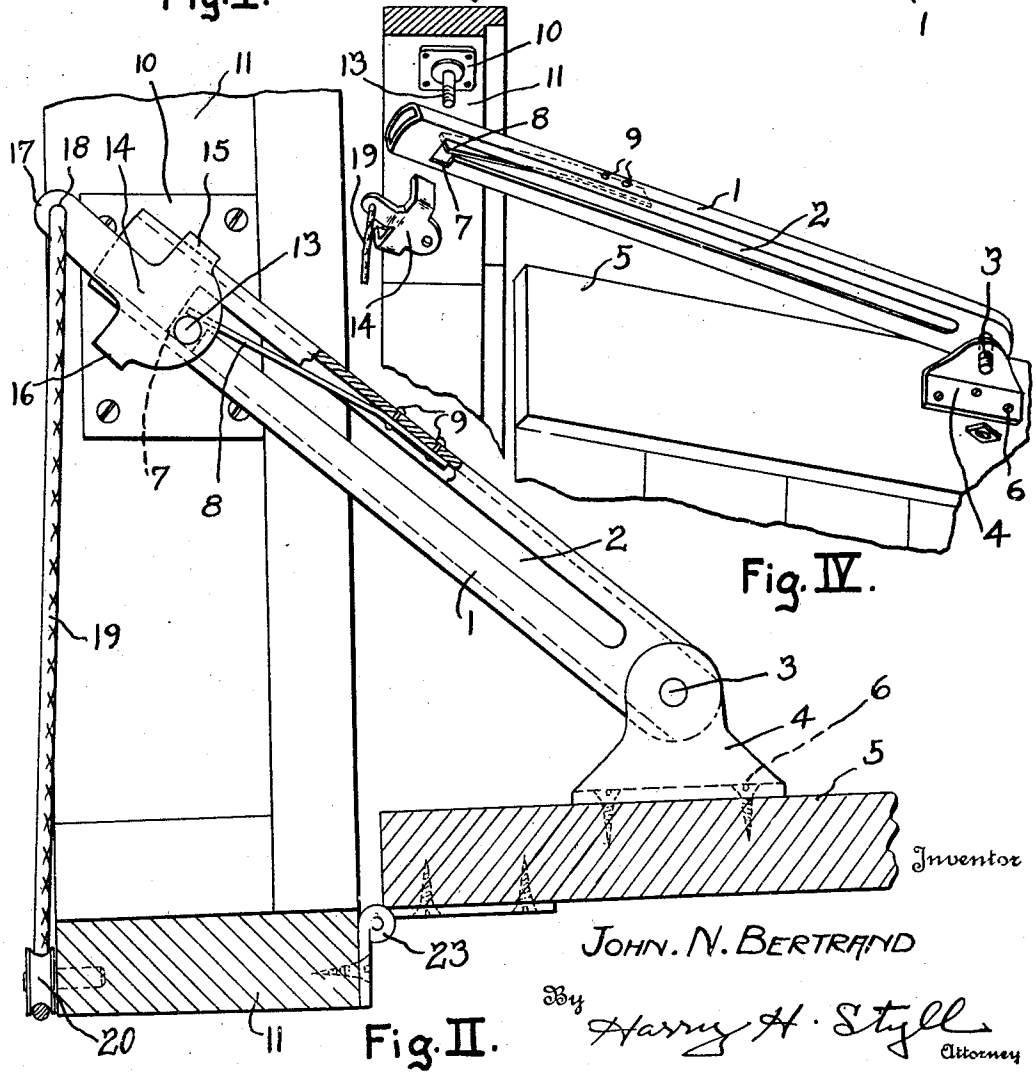


Fig. IV.

Fig. II.

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UNITED STATES PATENT OFFICE

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DOOR FASTENER

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This invention relates to improvements in door braces and has particular reference to a door fastener that automatically fastens itself at a desired position in the swing of a door or similar member.

The principal object of the invention is to provide a stop fastener for a swinging member that automatically fastens itself at a desired position of the swinging member and has simple and facile means for releasing the fastener to carry the swinging member to some other position.

Another object of the invention is to provide an improved part for such a device that will move the fastener itself rather than the spring or tension member thereby increasing the life and usefulness of the spring or tension member.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings, and it will be understood that modifications and changes may be made in the arrangements of parts and details of construction without departing from the spirit of the invention as expressed in the accompanying claims. I, therefore, do not wish to be limited to the exact details of construction and arrangements shown as the preferred forms only have been shown by way of illustration.

Referring to the drawings:

Fig. I is a fragmentary perspective view showing the device in operation on a swinging member;

Fig. II is a bottom view of the device showing its connection to the swinging member and the frame work of the same;

Fig. III is a fragmentary perspective view on an enlarged scale of the latch end of the device;

Fig. IV is a fragmentary view partially in perspective showing the parts at the latch end of the device separated but arranged for assembly.

Referring to the drawings wherein similar reference characters are employed to denote corresponding parts throughout, the fastener member 1 having a longitudinal guide slot 2 is pivoted at 3 to a hinge connection 4 which is secured to the swinging member 5 by the screws 6 or other connecting devices. The guide slot 2 has an offset recess or notch 7 adjacent the end of the fastener opposite from its pivot connection 3. A blade spring or tension member 8 is secured to the fastener 1 by rivets or other connections 9 so that a portion thereof extends over the notch or recess 7. A pivot or swinging plate 10 is secured to the frame work 11 surrounding the swinging member 5 by means of the screws or other connecting devices 12. The plate 10 has an extending pin or pivot 13 adapted to extend through and lie in the recess 7 of the slot 2 of the fastener 1. Pivoted on the pin 13 is a trigger member or throw device 14 having the bent hook projections 15 and 16 adapted to engage their respective sides of the fastener 1. The member 14 has an extending arm 17 having a recess or hole 18 therein in which is secured the pull rope 19 which extends horizontally to a pulley 20 descending from the pulley 20 as indicated by 21 in Fig. I and having the terminating ring 22. The swinging member 5 is pivoted to the frame work 11 by means of the hinges 23 or other suitable hinge devices.

The operation of the device is as follows:

When the swinging member 5 is in closed position the fastener 1 lies along and substantially parallel with the top sill 24 of the frame work 11. When the swinging member 5 is pulled open the pin 13 slides along in the guide slot 2 of the fastener 1 until it enters the recess 7. As the pin 13 approaches that portion of the spring 8 which overhangs the recess 7 the spring is forced up to allow passage of the pin 13, the spring, however, springing back into position when the pin 13 enters the slot or recess 7, thus yieldingly holding the pin 13 in the recess 7 which latches the fastener 1 in extended position. To release the pin 13 from the recess 7 it is necessary to pull upon the release cord or rope 19. This pulls down the arm 17 of the trigger member 14 causing the hook member 15 thereof to engage its adjacent side of the fastener 1 forcing the said fastener 1 in an arc about its pivot 3 and against the tension of the spring 8 until the pin 13 has passed out of

the recess 7. The pin 13 thus is cleared and the swinging member 5 may be closed simply by pushing on it causing the pin 13 to slide along in the guide 2 until the fastener 1 reaches its original position on the sill member 24 as hereinabove described for the closed position.

It will be noted that in the operation of releasing the pin 13 from the notch 7 there has been no direct connection with the spring itself, nothing tending to move it independently of the fastener 1 from its overhanging position over the notch 7 in the guide 2, but that the fastener itself has been moved in such a way as to make the notch 7 depart from the engaging position with the pin 13. This makes a simple and efficient method of operation increasing the length of wear of the spring and reducing liability of breakage by the elimination of complicated spring operating mechanism.

The device is simple in construction, economical in manufacture and efficient in operation.

From the foregoing description it will be seen that I have provided simple and efficient means for carrying out all the objects of the invention.

Having described my invention, I claim:

1. In a device of the character described, a fastener bar having a pin guide and stop notch thereon, means for pivoting one portion of the fastener bar to a swinging door-like member, resilient means overlying the stop notch, a member having an extending pin and adapted to be secured to the frame surrounding the swinging door-like member, said pin fitting in said pin guide and adapted to be held in the stop notch against the tension of the resilient member and a trigger member pivoted on the pin and having a portion engaging the fastener bar whereby rotating the trigger member on the pin draws the fastener bar about the fastener bar pivot to remove the fastener notch from the pin against the tension of the resilient member.

2. In a device of the character described, a fastener bar having a slide guide and a stop abutment thereon, means for pivoting one portion of the fastener bar to a swinging door-like member, resilient means relatively positioned with the stop abutment, a member having a guide slide connection and adapted to be secured to the frame surrounding the swinging door-like member, said guide slide connection cooperating with the slide guide of the fastener bar and adapted to be held in engagement with the abutment stop against the tension of the resilient member and a release member pivoted on the member having the guide slide connection and having a portion engaging the fastener bar whereby moving the release member on its pivot draws the fastener bar about the fastener bar pivot to remove the abutment stop from the guide slide connection against the tension of the resilient member.

3. In a device of the character described, a fastener bar having a guide slot and a recessed notch extending therefrom, a pivot to pivot one end of the fastener bar to a swinging door-like member, a blade spring secured in the slot and extending over the notch, a member having an extending pin and adapted to be secured to the frame surrounding the swinging door-like member, said pin extending into said slot and adapted to fit in said notch against the tension of said spring, and a trigger member pivoted on said pin and having a portion engaging the fastener bar whereby moving the trigger on its pivot draws the fastener bar about its pivot to the swinging door-like member to remove the bar notch from the pin against the tension of the spring.

4. In a device of the character described for use in connection with a swinging door-like member having an open position, a fastener having a slot therein associated with the swinging door-like member, a resilient member positioned along the slot, and stop means held in position by the resilient member when the swinging door-like member is in open position.

5. In a device of the character described for use in connection with a swinging door-like member having a closed position, a fastener having a slot therein associated with the swinging door-like member, a resilient member positioned along the slot, and stop means released by the resilient member when the swinging door-like member is in said closed position.

6. In a device of the character described for use in connection with a swinging door-like member having an open and closed position, a fastener having a slot therein associated with the swinging door-like member, a resilient member positioned along the slot, and stop means held in position by the resilient member when the swinging door-like member is in open position and released by the resilient member when the swinging door-like member is in closed position.

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