No. 890,471. PATENTED JUNE 9, 1908.

J. C. TAYLOR.

DETACHABLE SCREEN DOOR HINGE.

APPLICATION FILED DEC. 18, 1907.

Fig. 1.

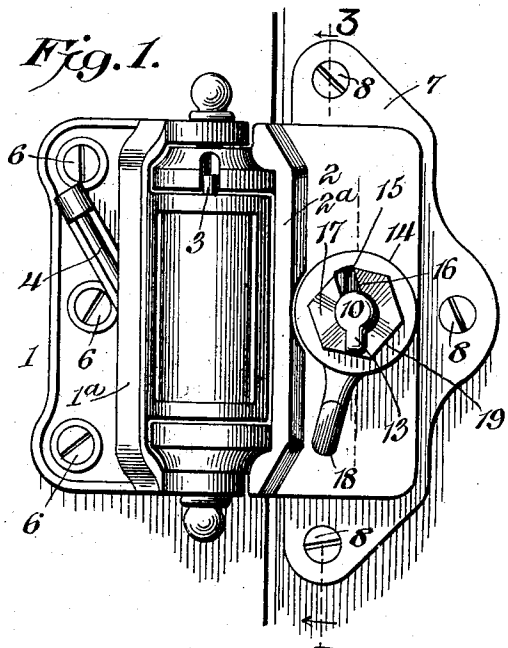



Fig. 2.

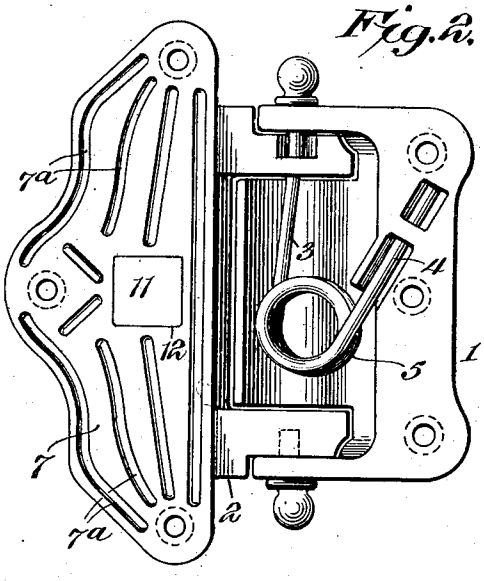



Fig. 3.

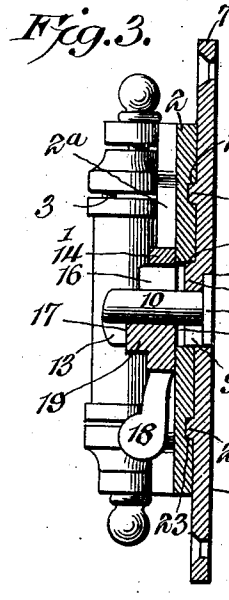



Fig. 4.

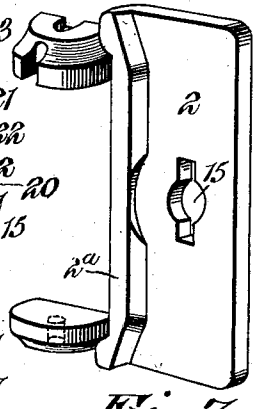



Fig. 5.

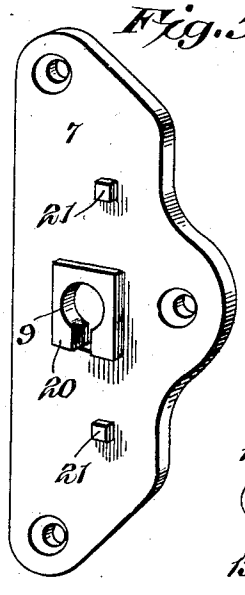



Fig. 6.

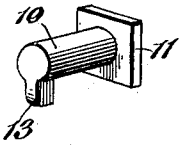
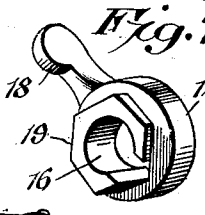



Fig. 7.




Witnesses

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# UNITED STATES PATENT OFFICE.

JASON C. TAYLOR, OF WILLOUGHBY, OHIO.

## DETACHABLE SCREEN-DOOR HINGE.

No. 890,471. Specification of Letters Patent. Patented June 9, 1908.

Application filed December 18, 1907. Serial No. 407,055.

*To all whom it may concern:*

Be it known that I, JASON C. TAYLOR, a citizen of the United States, residing at Willoughby, in the county of Lake and State of Ohio, have invented a new and useful Detachable Screen-Door Hinge, of which the following is a specification.

The invention relates to improvements in detachable hinges.

The object of the present invention is to improve the construction of detachable hinges, and to provide a simple, inexpensive and efficient hinge, designed particularly for use on screen doors, and adapted to enable the same to be easily put on and taken off.

Another object of the invention is to provide a hinge of this character, adapted to be applied to a door frame or casing without recessing the same.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a front elevation of a detachable screen door hinge, constructed in accordance with this invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a vertical sectional view, taken substantially on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective view of the detachable leaf. Fig. 5 is a similar view of the permanently attached plate. Fig. 6 is a detail perspective view of the pin or stud. Fig. 7 is a detail view of the rotary locking member.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

The detachable spring hinge comprises leaves 1 and 2, pivotally connected and engaged by arms 3 and 4 of a spring 5, which operates in the usual manner. The leaf 1 is designed to be secured to a screen door by screws 6, or other suitable fastening devices, and the other leaf 2 is detachably secured by the means hereinafter described to a permanently attached securing plate 7, secured by screws 8, or other suitable fastening devices to the door frame or casing, or other suitable support. The leaves 1 and 2 are formed with flanges $1^a$ and $2^a$, located at the inner edges of the leaves and arranged at an angle to the plane of the outer faces of the same and projecting outwardly when the hinge leaves are assembled. The flange $2^a$ is shorter than the flange $1^a$. This being the case it follows that the inner face of the leaf 2 is off-set outwardly or forwardly from the plane of the inner or rear face of the leaf 1 to provide a space for the permanently attached plate and to avoid recessing the door frame or casing to accomplish this result. The permanently attached plate 7 is provided at its inner face, which is fitted against the door frame or casing, with a plurality of shallow corrugations $7^a$, which may be arranged in any preferred manner. These corrugations reduce the weight of the plate and lessen the amount of metal in the same without impairing the strength of the plate.

The permanently attached plate is provided with a key hole slot 9, consisting of an enlarged circular portion and a vertical rectangular extension. The key hole slot permits the outer portion of a pin or stud 10 to pass through the permanently attached plate before the same is applied to the door frame or casing. The pin or stud 10, which is arranged horizontally, projects from the outer face of the permanently attached plate, and is provided at its inner end with a rectangular head 11, which fits in a recess 12 in the rear or inner face of the permanently attached plate. This interlocks the stud with the permanently attached plate when the parts are assembled, and the pin or stud is thereby held against rotary movement. The pin or stud is provided at its outer end with a radially arranged lug 13 of a size to pass through the rectangular portion of the key hole slot, and adapted to be engaged by a locking member 14, which engages the leaf 2 and detachably secures the same to the permanently attached plate.

The leaf 2 is provided with a double key hole slot 15, consisting of a circular opening and upper and lower vertically arranged rectangular extensions, and adapted to permit the spring hinge to be reversed to permit a door to be hung at either the right or left hand side. The locking member 14 is provided with a key hole slot 16, consisting of a circular opening of a size to correspond with the pin or stud and a recess of a size to permit the member 14 to be passed over the outer end of the pin or stud 10. The pin or

stud 10, which is circular in cross section, forms a support for the leaf 2 and a combined pivot and support for the locking member after the locking member is placed on the pin or stud, it is adapted to be partially rotated to carry the recess away from the stud. The locking member is provided with an inclined or angularly disposed cam face 17 for engaging the stud, whereby when the locking member is rotated to carry the recess away from the lug, the said locking member will be tightly wedged between the stud and the leaf 2. The locking member 14 is provided with an arm 18 to enable it to be readily rotated by hand, and it has a polygonal wrench-receiving portion 19 to enable it to be operated by a wrench, or other suitable tool. The cam face 17 is located at the wrench-receiving portion, as clearly shown in Fig. 7 of the drawing. The locking member is readily operated to lock or release the hinge.

The permanently attached plate is provided with a central raised portion or boss 20, and it has upper and lower lugs or bosses 21 for interlocking the leaf 2 with the permanently attached plate. The leaf 2 is provided with a central recess 22 to fit the boss 20, and it has upper and lower recesses 23 to receive the lugs or bosses 21. This construction interlocks the leaf 2 with the permanently attached plate, when the parts are assembled, and the pin or stud is thereby relieved of the strain incident to the weight of the door.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the said leaf, and a locking device detachably engaging the stud and the leaf to retain the latter on the former.

2. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the said leaf and provided with a projecting lug, and a locking member arranged on the stud and detachably engaging the lug and the slotted leaf.

3. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the said leaf and provided with a projecting lug, and a locking member arranged on the stud and provided with a cam face for engaging the said lug to clamp the slotted leaf tightly against the said securing plate.

4. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the leaf and provided with a lug, and a rotary locking member provided with a key hole slot and detachably arranged on the stud, said locking member being also provided with a cam face for engaging the stud to clamp the leaf against the securing plate.

5. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the leaf and provided with a lug, and a rotary locking member detachably arranged on the stud and having a cam face for engaging the lug, said locking member being provided with a wrench receiving portion and having an operating arm.

6. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate, a stud projecting from the securing plate and extending through the slot of the leaf, said leaf and securing plate being provided with coöperating interlocking parts, and means mounted on the stud and engaging the leaf to retain the same in its interlocked relation with the securing plate.

7. The combination with a hinge of the character described comprising in its construction a slotted leaf provided with recesses, of a securing plate having projecting bosses fitting in the said recesses, a stud projecting from the securing plate and extending through the slot of the leaf, and means mounted on the stud and engaging the leaf for retaining the same in interlocked relation with the securing plate.

8. The combination with a hinge of the character described comprising in its construction a slotted leaf, of a securing plate having an opening and provided at its inner face with a recess, a stud extending through the opening and through the slot of the leaf and provided with a head fitted in the said recess and interlocked with the securing plate to hold the stud against rotary movement, and means mounted on the stud and detachably engaging the same and the leaf.

9. The combination with a hinge of the character described comprising in its construction a slotted leaf provided with a recess, of a securing plate having an opening and provided at its inner face with a recess, said securing plate being also provided at its outer face with a boss arranged at the said opening and fitting in the recess of the leaf, a stud extending through the opening of the securing plate and the slot of the leaf and having a head fitted in the recess of the former and interlocked with the same, and

means mounted on the stud for engaging the leaf to retain the same in interlocked relation with the securing plate.

10. The combination with a hinge of the character described comprising in its construction a leaf having a double key hole slot, of a securing plate, a stud projecting from the securing plate and provided with a lug and extending through the double key hole slot of the leaf, said slot permitting the hinge to be reversed, and a locking member engaging the lug and the leaf.

11. The combination with a hinge of the character described comprising in its construction a leaf having a double key hole slot to permit the hinge to be reversed and having recesses, of a securing plate having an opening and provided at its inner face with a recess and having upper, lower and intermediate bosses at its outer face to fit the recesses of the leaf, a stud extending through the slot of the leaf and the opening of the securing plate and having a head at its inner end to fit in the recess of the said securing plate and provided at its outer end with a lug, and a rotary locking member provided with a key hole slot to enable it to be placed on the stud and having a cam edge for engaging the lug.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JASON C. TAYLOR.

Witnesses:

IRENE GAY,

LUCY A. GOODRICH.