

E. CONKLIN.
DOOR CHECK AND TIGHTENER.

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DOOR CHECK AND TIGHTENER.

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To all whom it may concern:

Be it known that I, EDWARD CONKLIN, a resident of Channahon, in the county of Will and State of Illinois, have invented certain
5 new and useful Improvements in Means for Tightening Doors, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as
10 it appertains to make and use the same.

My invention relates to means for tightening doors, blinds, transoms, &c.

It is a matter of common knowledge, especially among builders, that doors, blinds, transoms, &c., are liable to spring and warp away
15 from their stops or jambs, resulting in endless annoyance and expense to the occupants of the house on account of the necessity for replacing the whole or portions of the doors
20 or blinds, providing weather-strips to exclude the entrance of wind, rain, and snow, and in many cases constructing storm-houses which must be erected in winter and removed in summer. These and many other expenses
25 result from the springing and warping of doors, blinds, transoms, &c., and it is the object of my invention to provide means whereby they can be effectually prevented from warping or springing away from their
30 stops or jambs, my improvements being also so constructed and arranged that they will operate automatically upon the closing or opening of the door, blind, or transom, and so that when closed the doors, &c., to which
35 my improvements are applied will be prevented from rattling, my improvements being, therefore, in effect a tightener and antirattler for doors, blinds, transoms, &c.; and the invention consists in certain novel features of
40 construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are views showing the application of
45 my improvements. Figs. 3, 4, and 5 are detail views.

My improved tightener comprises two essential parts A B, the part or device A being adapted to be secured to the casing of
50 the door or other hinged device, such as a shutter or transom, and the part or device B

being adapted to be secured to the door, shutter, transom, or other hinged device.

The device A comprises a base-plate 1, having perforations for the accommodation of
55 fastening devices 2, and also having a lug 3, which projects toward the door and forms an extended bearing for said base, so as to cause it to properly withstand the strain brought to bear upon it when the devices supported
60 by said base are operated, as hereinafter explained. An arm 4 projects outwardly from the base 1 and at its free end is provided with a laterally-projecting pintle 5, on which a lever 6 of peculiar construction is pivotally
65 mounted. One arm of the lever 6 is preferably made in the form of a weight 8, and the other arm is bifurcated to form jaws 9 10. The lever 6 is made between its respective arms with an enlargement 11, having a curved
70 nearly circular recess 12, in which a short cross-bar 13 is loosely disposed. The cross-bar 13 is carried between the arms of the bifurcated upper end of a bar or plunger 14. The bar or plunger 14 enters a coiled spring
75 15, and the latter bears at one end against a shoulder 16, formed by the enlarged bifurcated end of the plunger, the other end of said spring having its bearing in a socket 17,
80 formed in the base-plate 1. From this construction and arrangement of parts it will be seen that when the lever 6 is turned on its fulcrum the spring will be first compressed, and then as the free end of the plunger passes the fulcrum of the lever the tension on the
85 spring will be relieved, and it is when the spring is thus under tension that the device operates in conjunction with the device B to force the door or other hinged device tightly against its stops or jambs and hold it there.
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The device B comprises a shell *a*, having perforated lugs *b b b* for the passage of screws
95 *c* for fastening said shell to the door, blind, or transom. The shell *a* is made with perforated ends for the accommodation of a longitudinally-movable bar *d*, the forward end of which may be made angular in cross-section, and the hole in the shell through which it passes made of a like shape, so that that
100 bar can slide freely, but will be prevented from turning. It is evident, however, that any other means may be employed for pre-

venting the turning of the bar *d*. The forward end of the bar *d* is made with a head *e*, having an undercut curved recess *f* and an outwardly-projecting tooth *g*. A coiled spring *h* is disposed within the shell *a* and made to encircle the bar *d*, one end of said spring bearing against the end of the shell and the other end bearing against a shoulder *i*, formed by the inner end of the angular portion of said bar.

Assume now that the devices are applied to a door and that the door is open. In the act of closing the door the recessed or undercut portion of the head *e* of bar *d* will engage the jaw 9 of lever 6 and enter the recess between said jaw and the jaw 10. As the door continues to close the pressure of the head of bar *d* on the jaw 9 will cause the lever 6 to turn on its pivot and compress the spring 15, and at the same time the bar or plunger *d* will be depressed against the resistance of the spring *h*, these two springs thus acting to force the door properly to its stops or jambs in the door-casing. As the door finally closes the outer end of the spring 15 will have passed the fulcrum of the lever 6, and the pressure of the jaw 10 against the head of bar or plunger *d* will serve to force the door tightly and quickly to its stops or jambs, but the head *e* of the bar or plunger *d* will be prevented from escaping from between the jaws 9 10 while the door is closed by means of the tooth *g*. Thus it will be seen that the door (or hinged device to which my improvements may be applied) will be held tightly to its stops or jambs, will be prevented from rattling, and will be prevented from warping or springing. Consequently there will be no need of weather-strips, storm-houses, or similar appliances when my improvements are applied to a door. It will also be observed that when the door is opened the turning of the lever 6 on its fulcrum will again cause the springs of both devices to be depressed and the tension of these springs will be again exerted on the door.

My improvements are very simple in construction, ornamental in appearance, and effectual in all respects in the performance of their functions.

The devices constituting my improvements may be applied at the top of the door near the free edge, or they could be applied to the vertical edges of the door and its casing.

Numerous changes in details of construction might be resorted to without departing from the spirit of my invention, and hence I do not wish to limit myself to the precise details herein set forth; but,

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

1. The combination with a spring-actuated plunger adapted to be applied to a door or other hinged device, of spring-actuated means applied to the door-casing in position to be

struck by the plunger in closing the door whereby said means is reversed and thrown into the path of the door, whereby to effect a tight closing of the latter, substantially as set forth.

2. The combination with a spring-actuated slidable plunger adapted to be secured to the door or other hinged device, of a pivoted part connected to the casing and adapted to be struck by the plunger and swung over on its pivot, substantially as set forth.

3. The combination with a spring-actuated plunger adapted to be applied to a door or other hinged device, of a pivoted lever adapted to be attached to the casing of said door or other hinged device and to be engaged by said plunger, and a spring adapted to bear against said lever and to be moved from one side to the other of the fulcrum of said lever when the latter is turned by the engagement therewith of said plunger, substantially as set forth.

4. The combination with a spring-actuated plunger adapted to be attached to a door or other hinged device, of a pivoted lever adapted to be attached to the casing of said door or other hinged device, one arm of said lever being made to form jaws with which said spring-actuated plunger is adapted to engage, and a spring connected with said lever normally at one side of its fulcrum, substantially as set forth.

5. The combination with a spring-actuated plunger adapted to be applied to a door or other hinged device, of a pivoted lever adapted to be attached to the casing of said door or other hinged device, one arm of said lever being weighted and the other arm being formed with jaws for the engagement therewith of the spring-actuated plunger, and a spring connected with said lever at one side of its fulcrum, substantially as set forth.

6. The combination with a spring-actuated plunger adapted to be attached to a door or other hinged device, of a bracket adapted to be secured to the casing of said door or other hinged device, a lever pivoted between its ends to said bracket and adapted to be engaged by said spring-actuated plunger on the door or other hinged device, said lever having a recessed projection between its arms, a plunger having a cross-bar to enter said recess, and a spring bearing at one end against said plunger and at the other end against said bracket whereby, when the lever is turned on its pivot the connection of said plunger with the recessed projection on the lever, will move from one to the other side of the fulcrum of said lever and compress said spring, substantially as set forth.

7. The combination with a casing or shell adapted to be secured to a door or other hinged device, of a spring-actuated plunger mounted in said casing or shell and having a head at its forward end, said head having an undercut recess and an outwardly-projecting

tooth, a bracket adapted to be secured to the casing of the door or other hinged device, a spring-actuated lever pivoted to said bracket and having jaws to be engaged by the head
5 of the spring-actuated plunger, substantially as and for the purpose set forth.

In testimony whereof I have signed this

specification in the presence of two subscribing witnesses.

EDWARD CONKLIN.

Witnesses:

WILLIAM WILLARD,
SILAS I. PARKER.