D. W. THORNTON & P. L. HOADLEY.

COMBINED SPRING HINGE AND DOOR CHECK.

APPLICATION FILED NOV. 4, 1907.

Patented June 29, 1909.

926,520.

FIG. 1

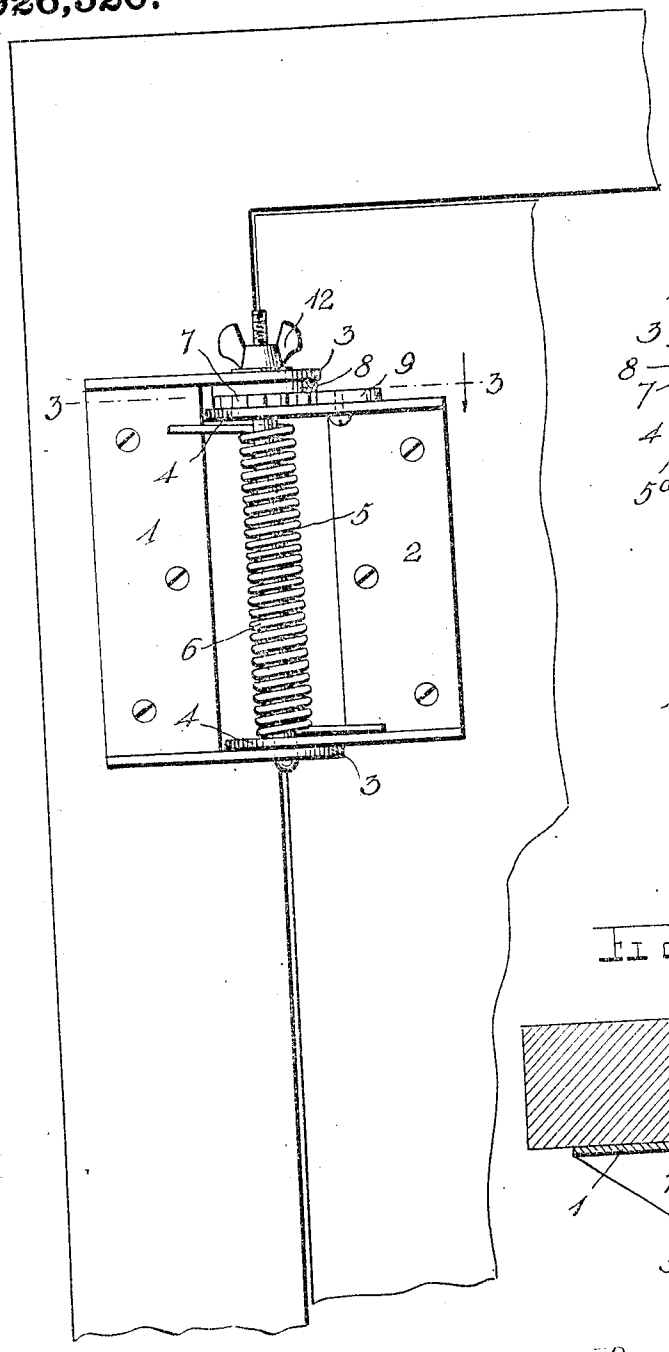



FIG. 2

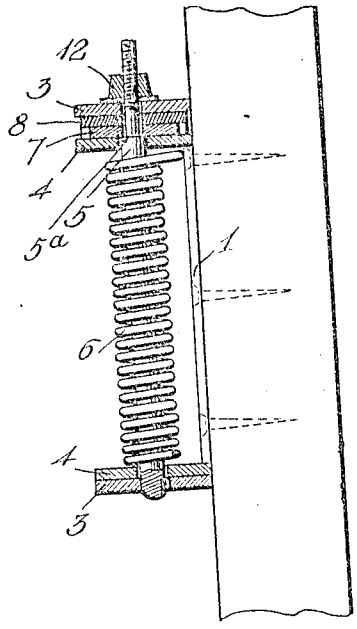
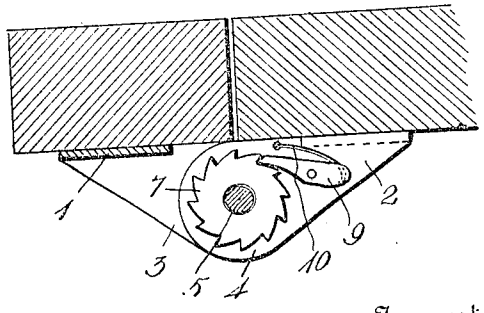



FIG. 3




Witnesses

C. H. Griebauer

Inventors

David W. Thornton

and Percy L. Hoadley

by Wilkinson & Co

Attorneys

# UNITED STATES PATENT OFFICE.

DAVID W. THORNTON AND PERCY L. HOADLEY, OF SEATTLE, WASHINGTON.

## COMBINED SPRING-HINGE AND DOOR-CHECK.

No. 926,520. Specification of Letters Patent. Patented June 29, 1909.

Application filed November 4, 1907. Serial No. 400,645.

*To all whom it may concern:*

Be it known that we, DAVID W. THORNTON and PERCY L. HOADLEY, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in a Combined Spring-Hinge and Door-Check; and we do 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.

This invention relates to combined spring hinges and door checks.

The object of the invention is to provide a spring hinge for doors having means whereby the closing of the door by the spring will be checked or retarded, thereby preventing the slamming of the door.

With this object in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is an outer face view of a hinge showing the same applied to a door and frame; Fig. 2 is a vertical sectional view; and Fig. 3 is a cross sectional view, taken on the line 3—3 of Fig. 1.

Referring more particularly to the drawings, 1 and 2 indicate the leaves of the hinge which are adapted to be secured to the door and jamb by screws or other suitable fastening devices. On the opposite ends of the leaf 1 are formed right-angularly disposed outwardly projecting ears, 3, while on the opposite ends of the leaf 2 are formed right-angularly disposed outwardly projecting ears, 4. The leaf, 2, is somewhat shorter than the leaf 1, and the ears 4 thereon are disposed between the ears 3 of the leaf 1. The ears 3 and 4 are provided with alined apertures through which is adapted to be inserted a pivot bolt, or pintle, 5, said pintle being keyed to or otherwise rigidly connected at its lower end to the lower ear 3 of the leaf 1 by a spline or feather, whereby said pintle is prevented from turning.

On the pintle 5 between the ears 4 of the leaf 2 is arranged a coiled spring, 6, one end of which is adapted to bear against the outer side of the leaf, 1, while the opposite end bears against the outer side of the leaf, 2, the tension of the spring being thus exerted to force the leaves together or to a closed position and thereby close the door.

The upper end of the pintle is reduced to form a shoulder, 5ª, and on said reduced end of the pintle is loosely mounted a ratchet wheel, 7, which bears on the shoulder 5ª and between which and the ear, 3, of the leaf, 1, is mounted a friction washer, 8 on said pintle. Pivotally mounted on the outer side of the ear 4 adjacent to the ratchet wheel 7 is a pawl or dog, 9, the end of which is held in engagement with the teeth of the ratchet wheel by means of a light spring, 10, thereby connecting the leaf 2 with the ratchet wheel so that when said leaf is forced outwardly by the coiled spring, 6, the ratchet wheel 7 will be turned on the pintle 5.

The end of the pintle which projects through the ratchet wheel 7 is extended beyond the outer side of the adjacent ear 3 of the leaf 1, and said extended end is threaded to receive a thumb nut, 12, which is screwed thereon and into engagement with the adjacent side of the ear 3, thus compressing said ear and clamping the washer 8 into greater or less frictional engagement with the ratchet wheel, 7, which forces the same into engagement with the shoulder on the pintle 5, thereby retarding the movement of the ratchet wheel, and the leaf 2 of the hinge. By thus checking or retarding the movement of the leaf 2, the movement of the door is checked and the latter is prevented from slamming. By screwing the nut downwardly, the frictional engagement of the washer will be increased, thus retarding the movement of the door to a greater degree, or, if desired, the nut may be screwed down tightly enough to hold the door open in any desired position. The shoulder, 5ª, on the pintle, 5, against which the ratchet wheel 7 bears, limits the downward movement of the parts when compressed by the nut 12, thus allowing the ear 4 on the leaf 2 to move freely.

Having thus described our invention, what we claim as new, and desire to secure by Letters-Patent, is:

1. A combined spring hinge and door check comprising a pair of leaves having apertured pivot lugs formed thereon, a pintle arranged in said lugs to pivotally connect said leaves together, a spring adapted to engage said leaves to force the same to a closed position, a friction disk on said pintle between said pivot lugs at one end of the leaves, and means whereby said friction disk

2

is clamped to retard the movement of the leaves of the hinge by said spring, substantially as described.

2. A combined spring hinge and door check comprising a pair of leaves having on their opposite ends right-angularly projecting apertured ears, a pintle provided with a shoulder arranged in the apertures of said ears, a coiled spring adapted to force said leaves to a closed position, a ratchet wheel loosely mounted on said pintle between the ears at one end of the hinge, a pawl on one of said leaves to engage said ratchet wheel, a friction washer mounted on the pintle between said ratchet wheel and the ear of the opposite leaf, and means to clamp said washer and ratchet wheel between one of said ears and the adjacent shoulder on said pintle, substantially as described.

3. A combined spring hinge and door check comprising a pair of leaves having on their opposite ends right-angularly projecting apertured ears, a pintle provided with a shoulder arranged in the apertures of said ears, a coiled spring adapted to force said leaves to a closed position, a ratchet wheel on said pintle, a pawl on one of said leaves to engage said ratchet wheel, a friction washer mounted on said pintle between said ratchet wheel and the ear of the opposite leaf, and a thumb nut adapted to be screwed into engagement with one of said ears whereby said washer and ratchet wheel are clamped between one of said ears and the shoulder on said pintle, thereby retarding the movement of the leaves, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

DAVID W. THORNTON.
PERCY L. HOADLEY.

Witnesses:
C. T. GLASS,
J. C. NORMAN.