(No Model.)

C. A. DONALDSON.

LOCK HINGE.

No. 563,142. Patented June 30, 1896.

Fig. 1.

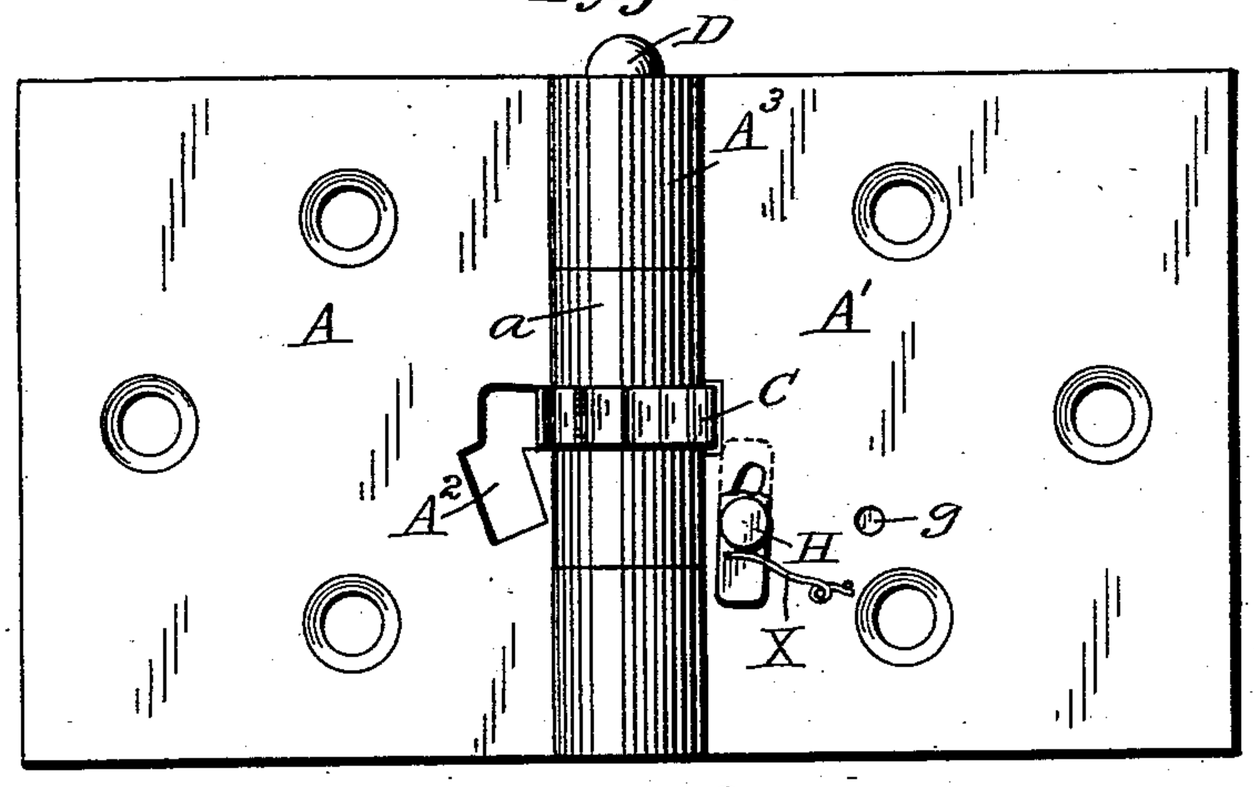


Fig. 2.

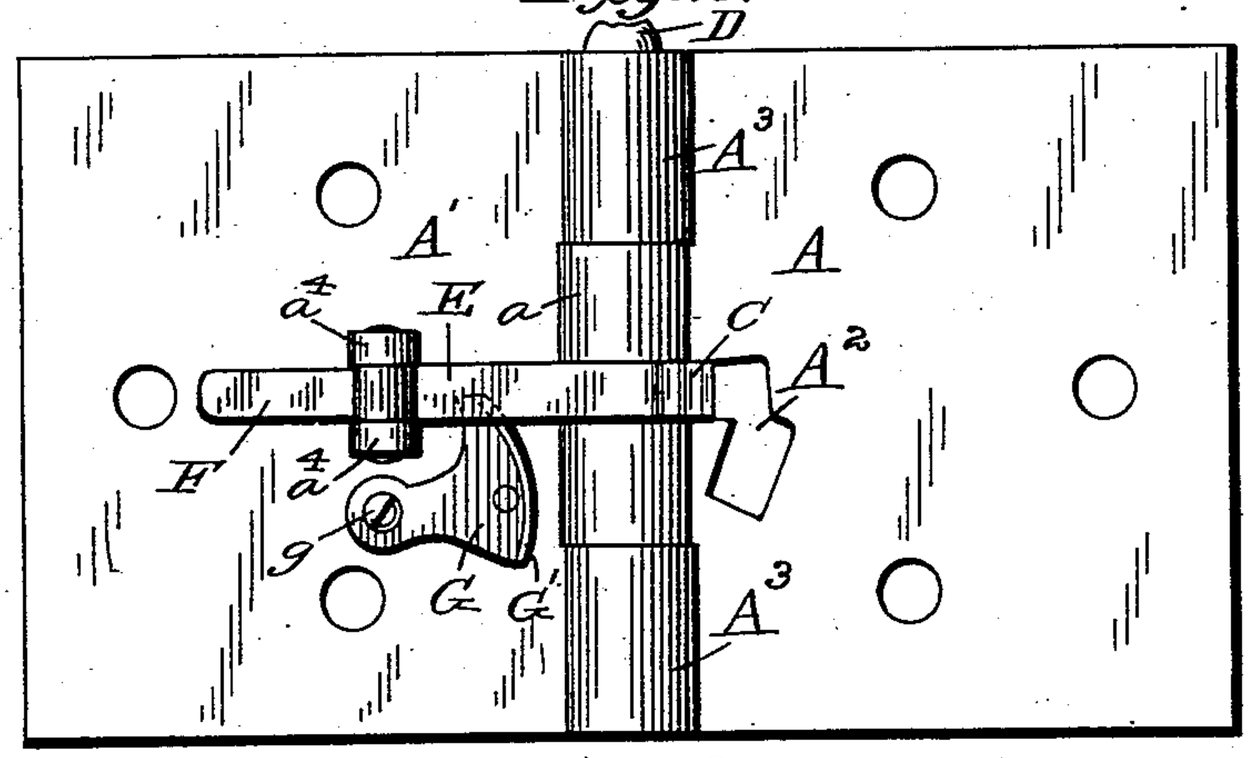


Fig. 3.

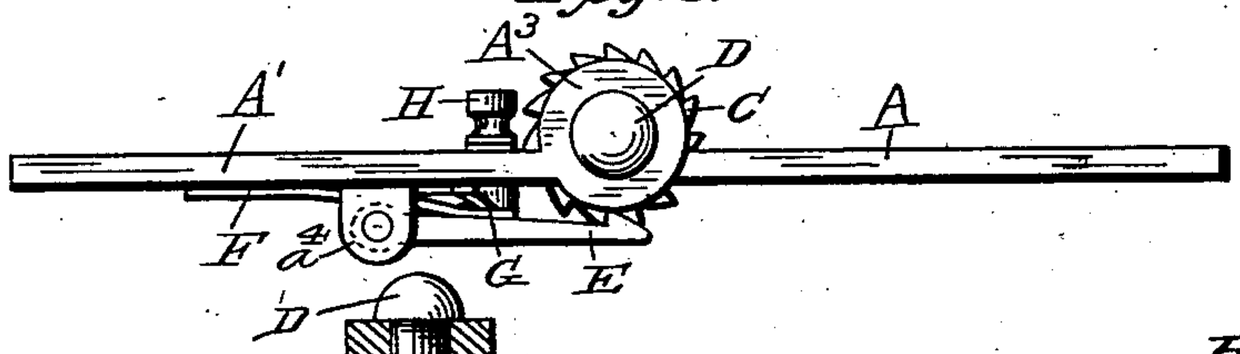


Fig. 4.

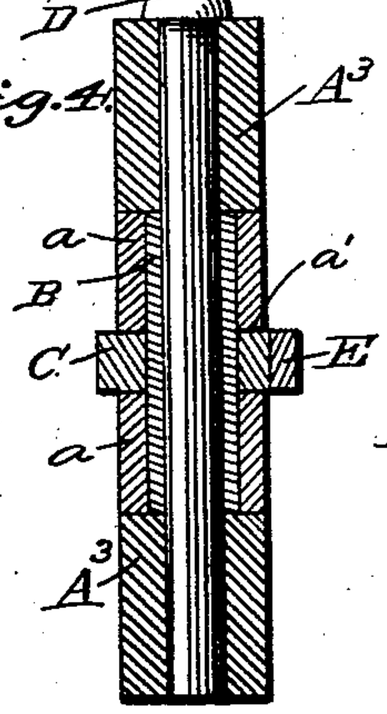


Fig. 5.

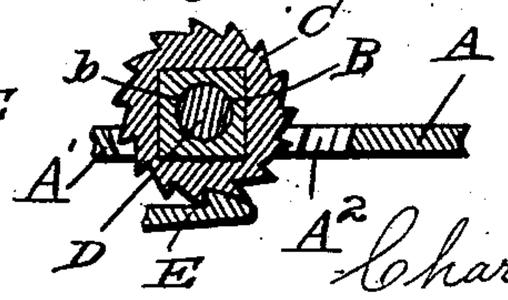
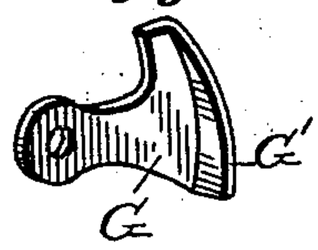


Fig. 6.



Witnesses
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K. A. Hall.

Inventor
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By John Hedderburn,
Attorney

UNITED STATES PATENT OFFICE.

CHARLES A. DONALDSON, OF MINNEAPOLIS, MINNESOTA.

LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 563,142, dated June 30, 1896.

Application filed November 14, 1895. Serial No. 568,963. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. DONALDSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Lock-Hinges; and I do hereby 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 certain new and useful improvements in lock-hinges, and has for its object, among others, to provide a simple and cheap hinge of this character that can be readily attached to any door in place of middle hinge, or, if a very strong lock is desired, can be used for all the hinges of the door. The locking device of the hinge may be manipulated to lock and hold the door in any open position at any desired point, can be made to match any style of hinge, the key is easily reached and operated either when the door is opened or closed, and the hinge may be made to remain unlocked continuously, thus allowing the door to move as with an ordinary hinge.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a face view of my improved hinge. Fig. 2 is a view of the reverse side. Fig. 3 is a top plan. Fig. 4 is a vertical section on the axial line of the hinge. Fig. 5 is a detail in horizontal section. Fig. 6 is a perspective view of the locking-key removed.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letters, A designates one of the plates of the hinge, and A′ the other. The plate A is formed with the eye or bolt-receiver *a*, which has a square or polygonal passage therethrough in which is inserted and retained the hollow bushing B, having a circular opening *b*, as shown. This eye is provided with an annular groove or recess *a′* at its mid-length, in which is located a gear or ratchet wheel C, which has also a square or polygonal opening, corresponding to the axle-bushing, and this ratchet or cog wheel is disposed opposite an opening A^2 in the plate A. The plate A′ is formed with the ears A^3, having circular passages therethrough and between which the bolt-receiver *a* of the plate A is designed to fit. The pins D are passed through the circular openings in the three eyes or bolt-receivers and form the pintle or pivot on which the hinge-plates work. The back of the plate A′ is formed with lugs a^4, in which is pivoted the pawl E, the toothed end of which is adapted to engage the cog or ratchet wheel, while a spring F is arranged beneath said pawl and designed to act thereupon, as shown. This spring F serves to hold the pawl E normally in engagement with the ratchet in opposition to the cam, being attached at one end to the said pawl at the under side thereof and its other end bearing against the plate A′, as shown.

G is the key, pivotally mounted at *g* on the plate A′, and having upon its rear face a cam-shaped flange G′, adapted to be passed under the pawl to lift the same from its engagement with the ratchet, and this key is provided with a handle H, arranged upon the opposite side of the plate, the shank of which is passed through a curved slot in the plate.

In operation the pawl is normally in engagement with the cog-wheel or ratchet, and the said pawl will hold the hinge, and consequently the door, in any position in which it is placed. The pawl is disengaged from the ratchet by forcing the cam-flange of the key beneath the pawl, so as to raise its tooth end from its engagement with the ratchet, when the door can be closed, as upon an ordinary hinge.

Modifications in detail may be resorted to without departing from the nature or spirit of the invention or sacrificing any of its advantages.

X is a spring arranged underneath the handle H, which serves to prevent the key from falling down and unlocking when the hinge is used with the key above the pawl. When the hinge is reversed and the key below the pawl, this spring is not needed.

What I claim as new is—

1. The combination of two plates hinged together upon a pintle common to both, a ratchet fast upon a portion of one plate surrounding said pintle and a spring-actuated pawl pivotally mounted on the other plate and engaging said ratchet, and a pivoted key having a cam-flange adapted to be moved under said pawl to hold it out of engagement with the ratchet, said pawl having a handle connected therewith and working through a slot in the plate, substantially as described.

2. The combination of two plates hinged together upon a pintle common to both, a ratchet fast upon a portion of one plate surrounding said pintle and a spring-actuated pawl pivotally mounted on the other plate and engaging said ratchet, and a pivoted key having a cam-flange adapted to be moved under said pawl to hold it out of engagement with the ratchet, said pawl having a handle connected therewith and working through a slot in the plate, and a spring bearing against said handle, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES A. DONALDSON.

Witnesses:

L. R. CLEMENT,

EMERY OLMSTEAD.