

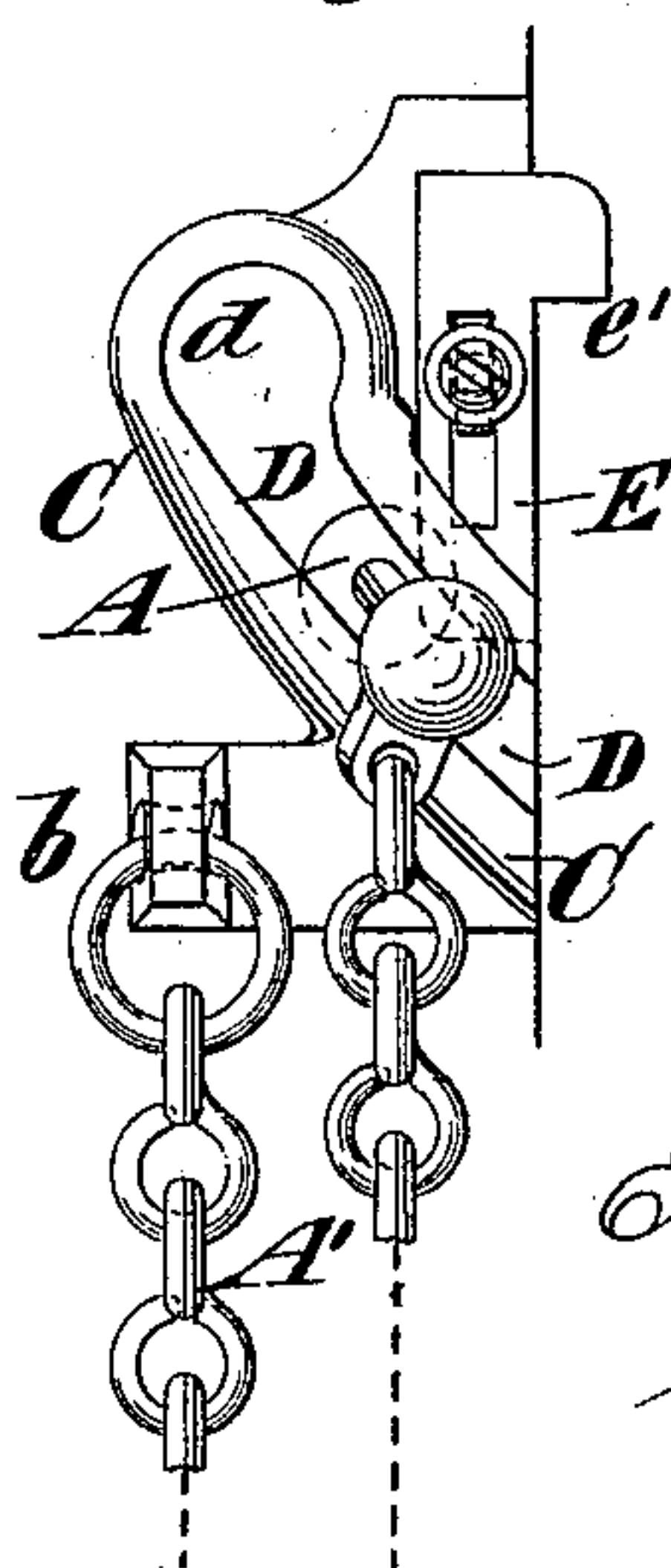
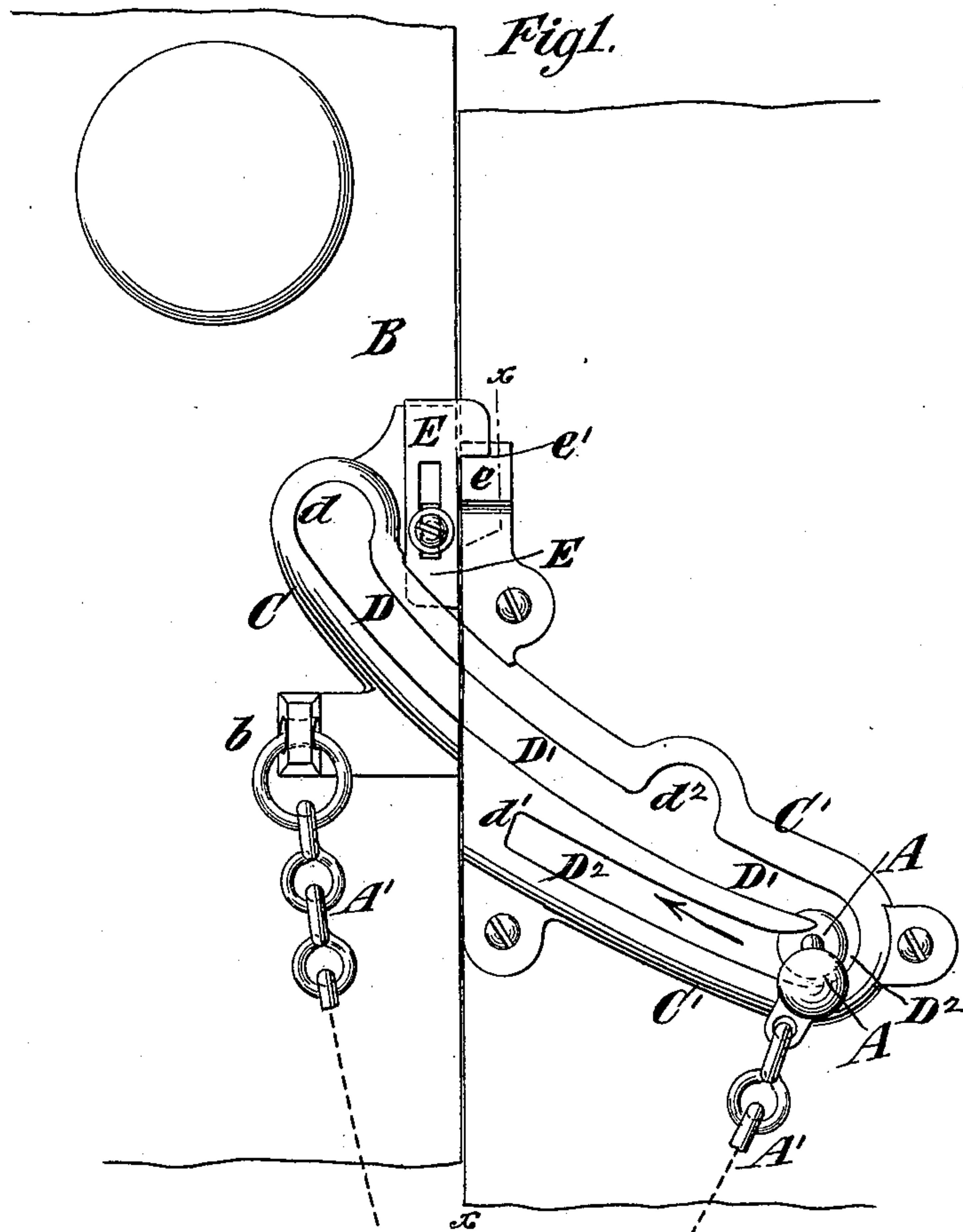
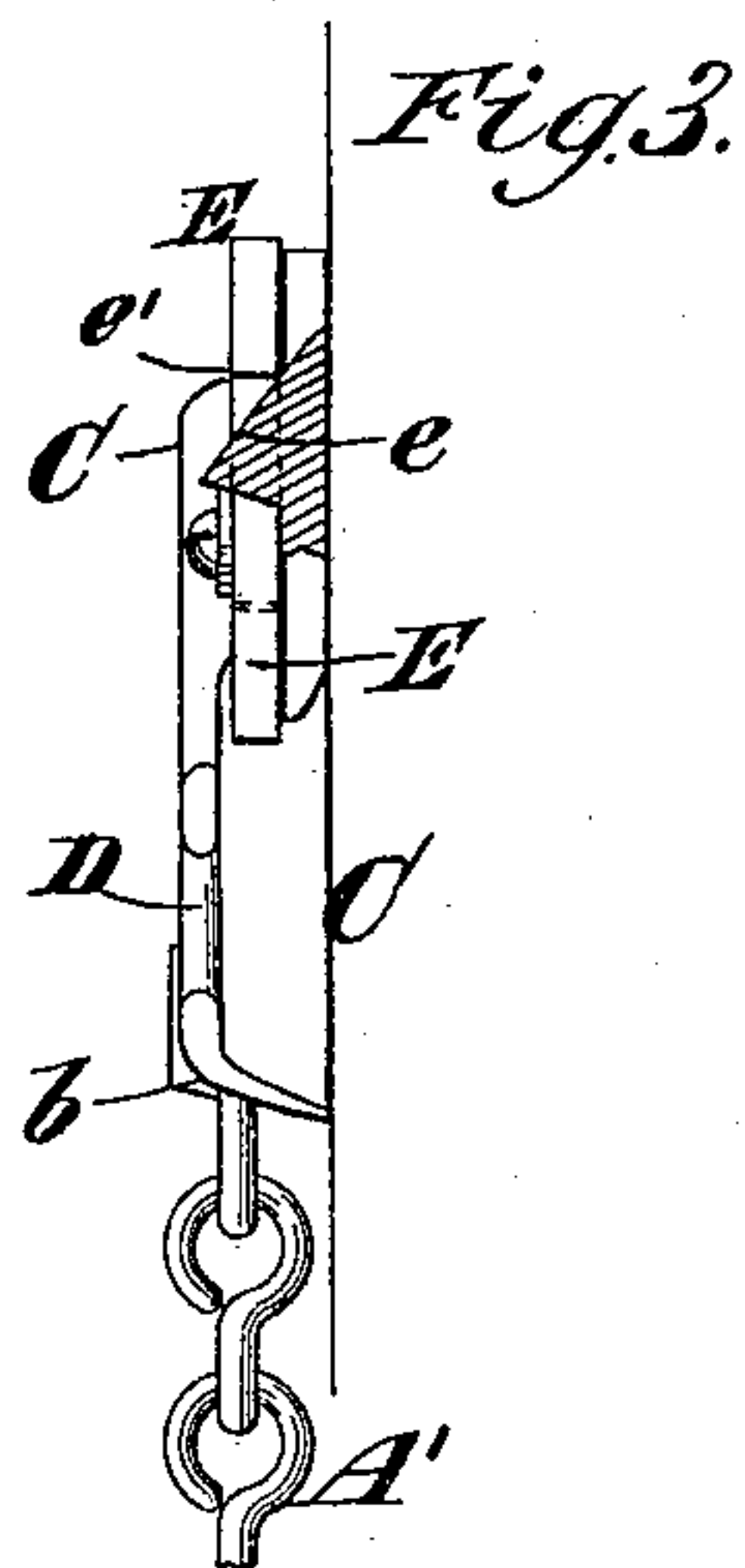
(No Model.)

E. T. SCHOONMAKER.

CHAIN BOLT.

No. 356,556.

Patented Jan. 25, 1887.



Witnesses:  
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Emil Kertter.

Inventor:  
Edward T. Schoonmaker  
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# UNITED STATES PATENT OFFICE.

EDWARD T. SCHOONMAKER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-  
THIRD TO FRANKLIN A. THURSTON, OF SAME PLACE.

## CHAIN-BOLT.

SPECIFICATION forming part of Letters Patent No. 356,556, dated January 25, 1887.

Application filed November 11, 1886. Serial No. 218,532. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD T. SCHOONMAKER, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Chain-Bolts for Doors, of which the following is a specification.

My invention relates to chain-bolts, which are most commonly applied to outside doors, and which comprise a bolt hung by a chain and a keeper in which the bolt may slide, but from which the bolt cannot be disengaged while the door is at all open. The chain whereby the bolt is suspended and the keeper are commonly secured to two parts of a folding door, or to the door and its jamb, and when the bolt is in the keeper but a very limited opening of the door is permitted.

The object of my invention is to provide a keeper of such construction that when the bolt is simply placed in it it will slide by gravity into the locking position in the keeper, and, furthermore, to provide means whereby the bolt will be caused to automatically slide into locking engagement with its keeper when the door is closed by a person passing out or leaving the house.

In carrying out my invention, I employ a keeper having an inclined slot for the bolt and a seat for the bolt offset below the lower end of the inclined slot and communicating therewith. When the bolt slides down the inclined slot it drops into the seat prepared therefor, and which precludes any return movement of the bolt in the slot by a pull upon the chain. This seat for the bolt I prefer to make in the form of a blind slot below the main slot and communicating therewith at the lower end. When the bolt slides down in the inclined main slot of the keeper it drops automatically into the lower slot, and as this lower slot is blind, or has no outlet, a pull upon the chain will simply draw the bolt into it until it comes to a stop at the end thereof.

I prefer to construct the keeper of two members which are secured to double doors or to a door and its casing, and which comprises an inclined slot continuous in and between the two parts. The part of the keeper in which is formed the upper end portion of the inclined slot serves as a rest for holding the bolt when

not in use, and I provide a movable stop which retains the bolt in said rest when the door is open. I also provide upon the locking portion of the keeper a cam which, when the door is closed, acts upon the movable stop to lift it and permit the bolt to slide from its position of rest in the upper portion of the inclined slot, which is in one part of the keeper, into its locking position in the other part of the keeper.

The invention consists in novel combinations of parts which are hereinabove referred to and hereinafter more particularly described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a face view of a bolt and its keeper embodying my invention, also showing portions of the meeting edges of the folding door or two doors. Fig. 2 is a similar view, representing the bolt as in its position of rest in the portion of the keeper which is attached to the door carrying the bolt; and Fig. 3 is an edge view of a portion of the keeper which constitutes the rest for the bolt, and also a partial section upon about the plane indicated by the irregular dotted line *xx*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A designates the bolt, which, as here shown, has a spherical head, and which is suspended by a chain, A'. This chain may be attached or hung at the point *b* to the door B or to a part of the keeper, as hereinafter described. The keeper with which the bolt engages to lock the door and prevent its opening beyond a certain point is composed of two parts, C C', and has formed in it an inclined slot which is continuous in and between the two parts C C', and is therefore composed of two portions, D D'. The portion C of the keeper is attached to the door B, which carries the bolt, and the chain A' may be secured to this portion of the keeper. At the top of the part D of the slot is an enlargement or opening, *d*, of sufficient size to receive the bolt directly into it, and it will be obvious that when the bolt is placed in such opening and let go it will slide downward to the position shown in Fig. 1, traversing the entire length of the inclined main slot D D'.

At the lower end of the slot portion D' and



below the same is a seat,  $D^2$ , which communicates with the slot  $D D'$ , and into which the bolt automatically drops below the line of the slot  $D D'$  as soon as it comes to the lower end of said slot. As here represented, the seat  $D^2$  consists of a second slot corresponding to the slot  $D D'$ , and which terminates abruptly at the point  $d'$ , it having no outlet for the bolt. I therefore term the slot  $D^2$  a "blind" slot, inasmuch as the bolt once entering it can find no outlet, save through the entrance-channel. The bolt, descending by gravity through the slot  $D D'$ , drops downward from the lower end thereof into the blind slot or seat  $D^2$ , and any attempt to open the door  $B$  from the outside will simply draw the bolt upward into the blind slot  $D^2$  in the direction of the arrow shown in Fig. 1, and the further opening of the door will therefore not be permitted. I have shown near the lower end and at the top of the slot portion  $D'$  an enlargement or opening,  $d^2$ , through which the bolt  $A$  may be entered into or removed from the slot  $D D'$  by a person on the inner side of the door.

$E$  designates a movable stop or latch, which is fitted to slide vertically in the part  $C$  of the keeper at the lower end of the slot portion  $D$ , and which projects sufficiently into the slot portion  $D$  to retain the bolt therein, as is shown in Fig. 2. When the bolt is out of action, or not in use, it is held within the slot portion  $D$  in the part  $C$  of the keeper by means of the movable stop or latch  $E$ , and the member  $C$  of the keeper thereof forms a rest for holding the bolt in its inactive position.

I have represented upon the part  $C'$  of the keeper and at its extreme left-hand and upper portion an inclined nose-piece or projection,  $e$ , and the movable stop or latch  $E$  has a shoulder,  $e'$ , projecting transversely into the path of this projection. When the door is opened the bolt  $A$  is held within the part  $C$  of the keeper, as in a rest, and when the door is closed by a person passing out the shoulder  $e'$  of the stop or latch  $E$  comes in contact with the cam  $e$ , and the stop or latch is thereby

raised, so as to release the bolt  $A$  and permit it to slide down through the slot  $D D'$  into the locking position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a chain-bolt, of a keeper therefor having an inclined slot for the bolt and a seat for the bolt-offset below the lower end of the inclined slot and communicating therewith, substantially as herein described.

2. The combination, with a chain-bolt, of the keeper  $C'$ , having the inclined main slot  $D'$ , provided near the lower end with the enlargement  $d^2$  for the insertion of the bolt, and the blind slot  $D^2$ , below the main slot and communicating therewith at the lower end, substantially as herein described.

3. The combination, with a chain-bolt, of a keeper consisting of two parts to be secured to double doors or to a door and its casing, and which comprises an inclined slot continuous in and between the two parts, the part of the keeper in which is formed the upper end portion of the inclined slot serving as a rest for holding the bolt when not in use, and a movable stop which retains the bolt in said rest when the door is open, substantially as herein described.

4. The combination, with a chain-bolt, of a keeper made in two parts to be secured to a double door or a door and its casing, and which comprises an inclined slot continuous in and between the two parts, that part of the keeper in which is formed the upper end portion of the slot serving as a rest for holding the bolt when not in use, a movable stop which retains the bolt in said rest, and a cam whereby said stop is moved on the closing of the door to release the bolt and permit its descent into the other part of the keeper, substantially as herein described.

EDWARD T. SCHOONMAKER.

Witnesses:

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