

(No Model.)

2 Sheets—Sheet 1.

W. S. CASTOR.

DOOR.

No. 270,635.

Fig. 1. Patented Jan. 16, 1883.

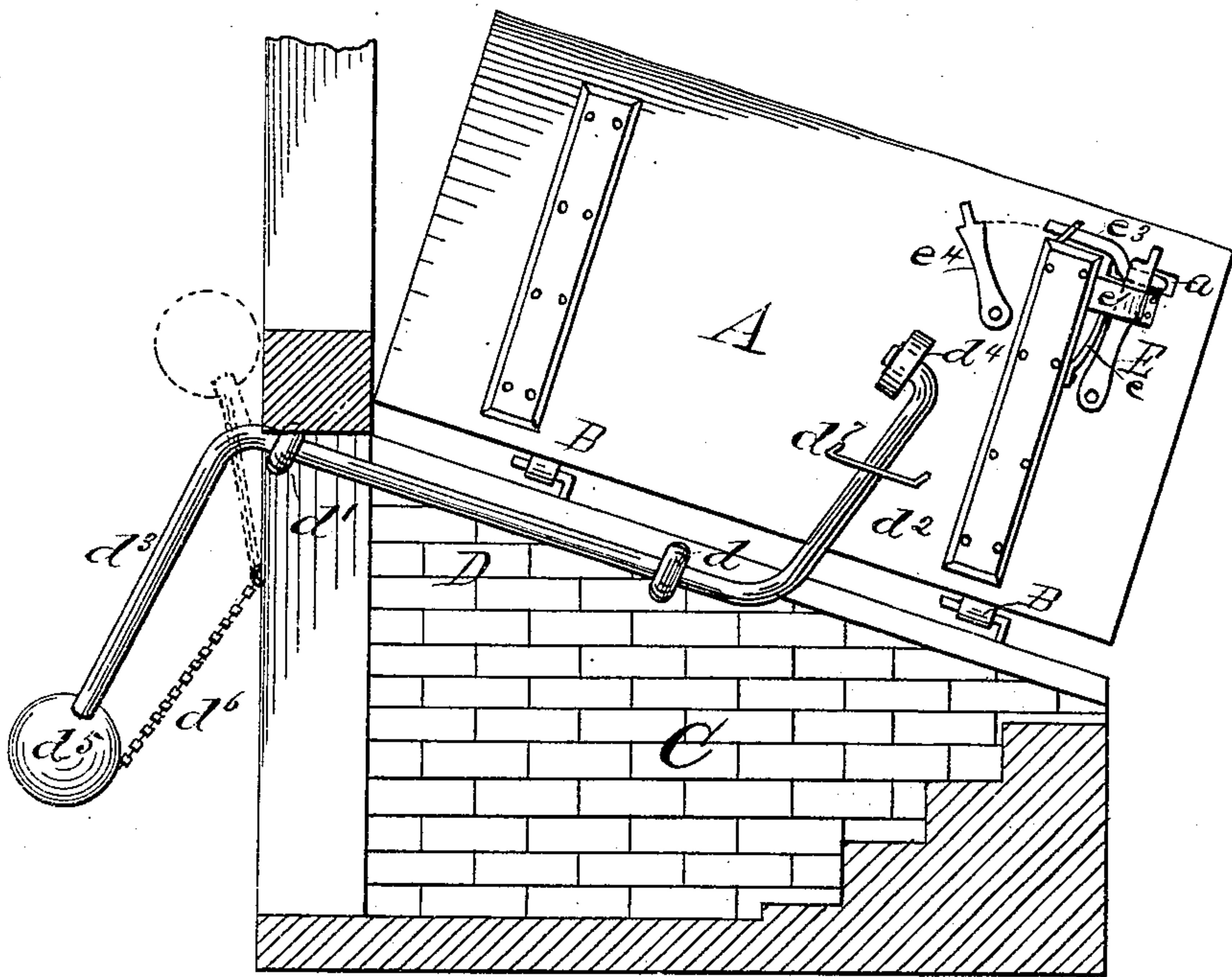


Fig. 2.

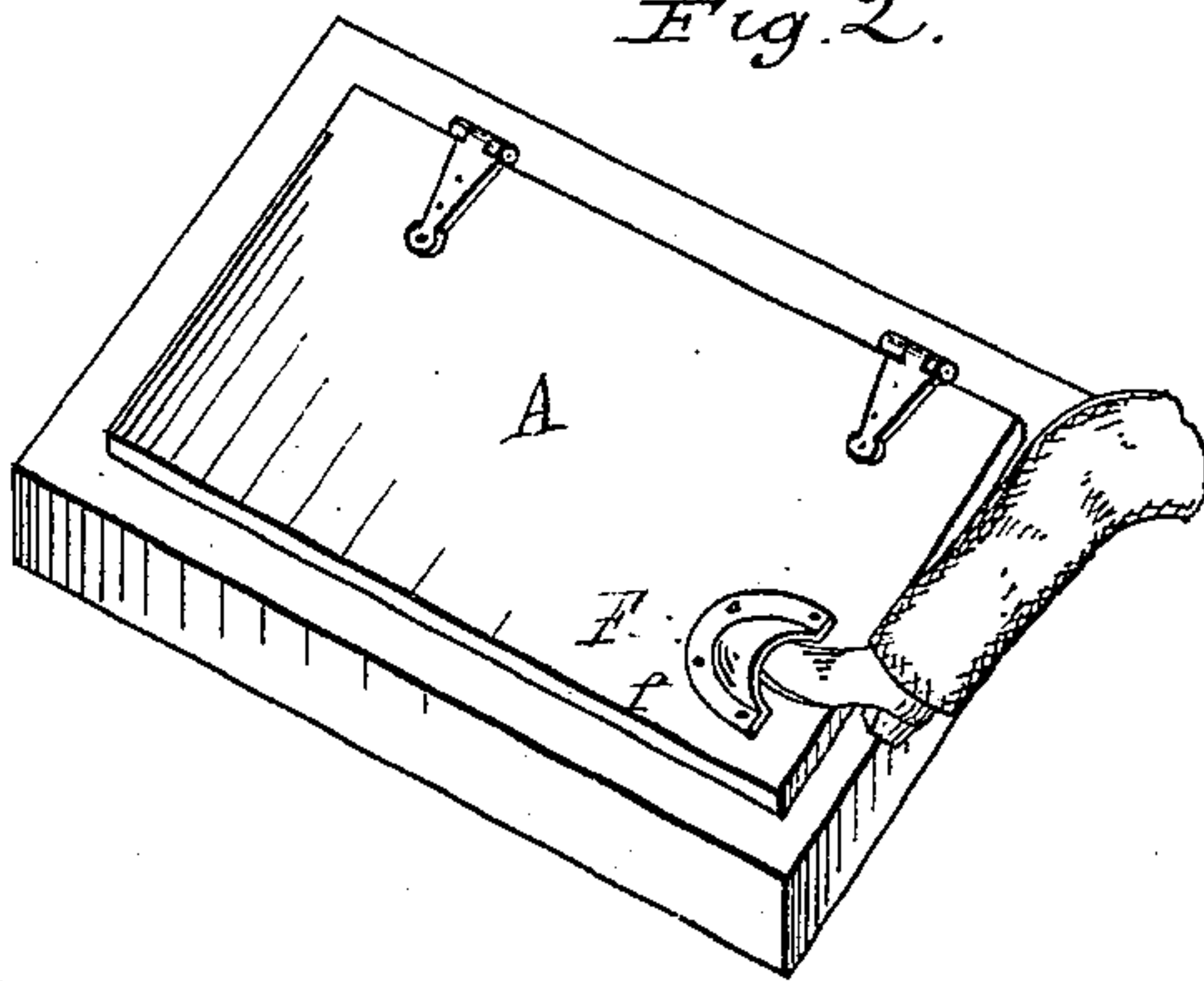


Fig. 3.

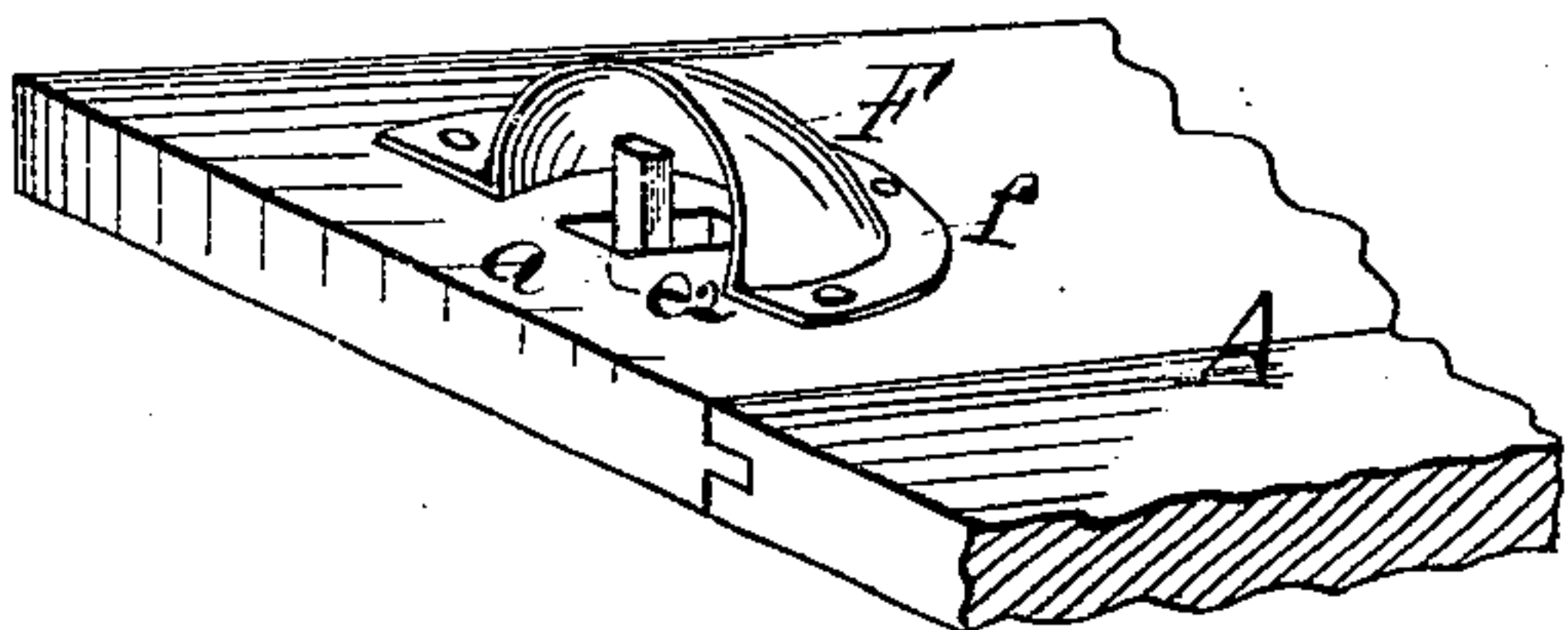
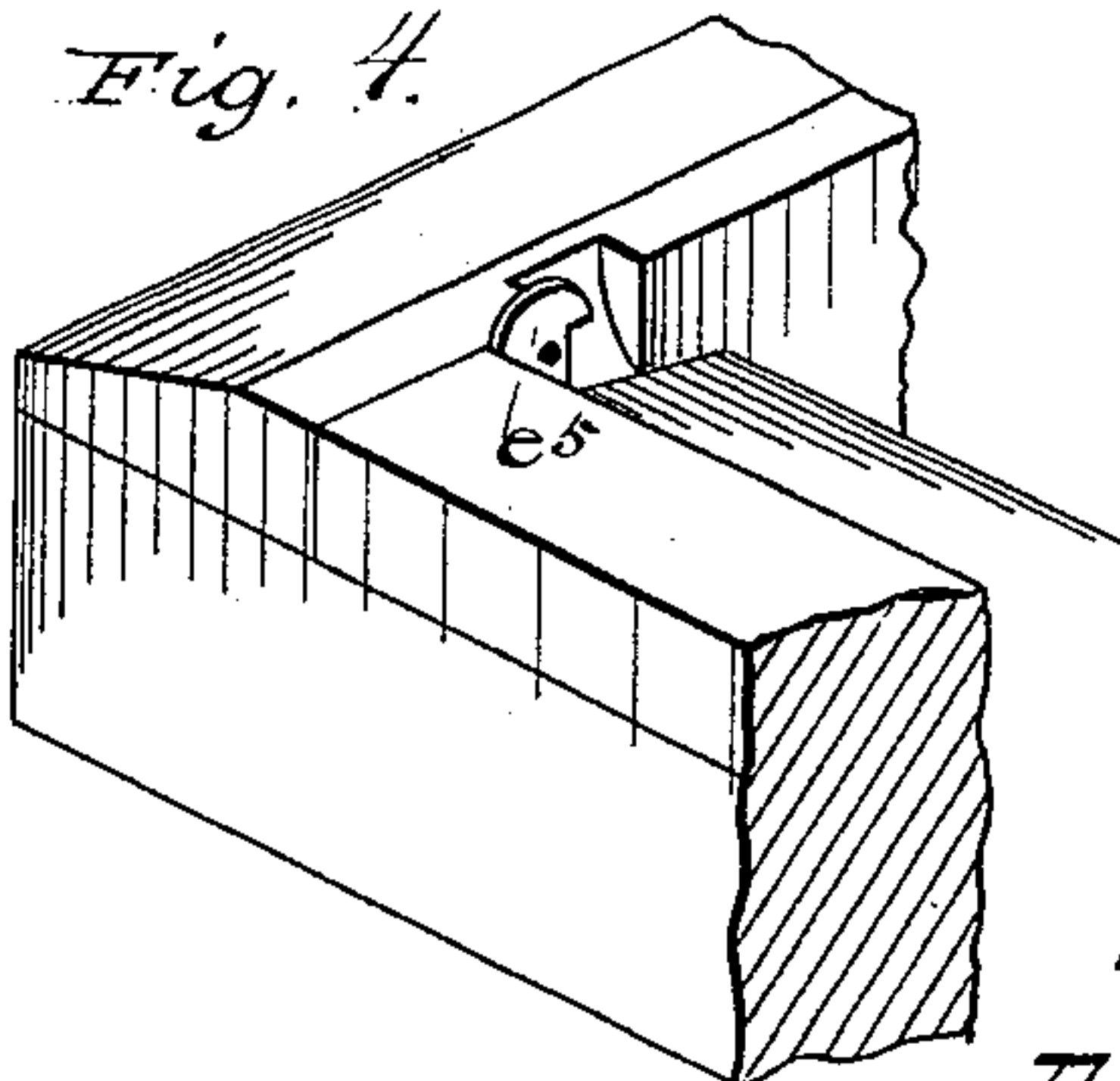


Fig. 4.



Witnesses:
W. B. Masson
E. E. Masson

Inventor
William S. Castor
By E. B. Stocking
Att'y.

(No Model.)

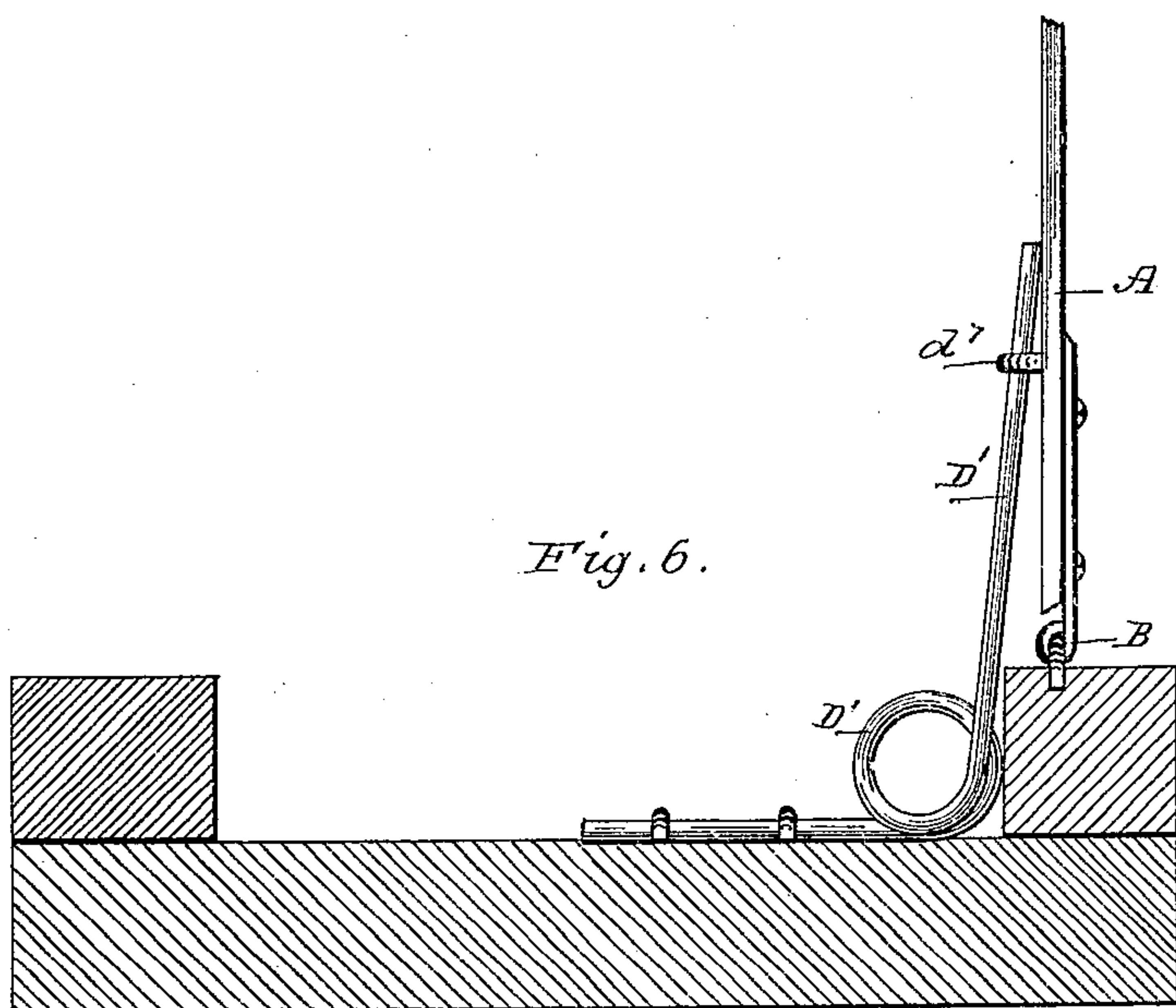
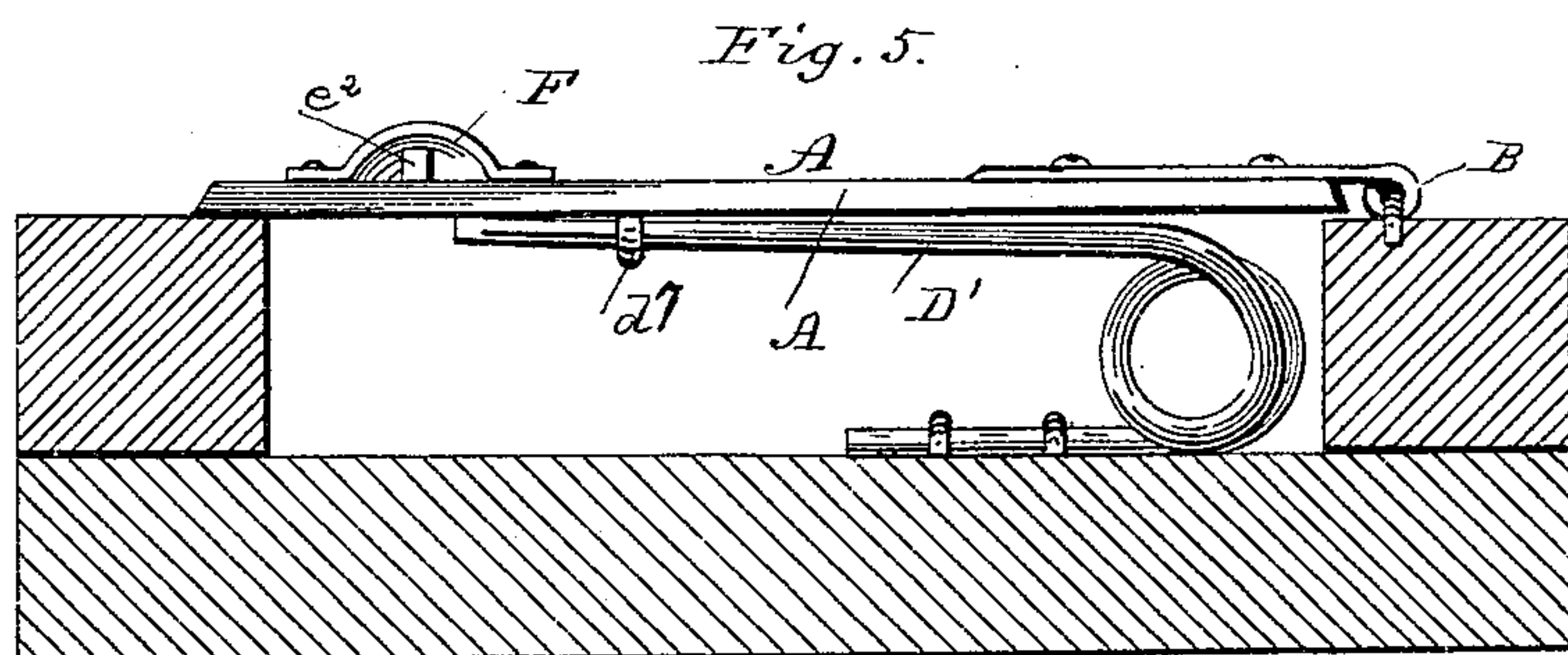
2 Sheets—Sheet 2.

W. S. CASTOR.

DOOR.

No. 270,635.

Patented Jan. 16, 1883.



Witnesses:
W. Masson
E. E. Masson

Inventor:
William S. Castor
By E. B. Stocking
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM S. CASTOR, OF MARSTON, ILLINOIS.

DOOR.

SPECIFICATION forming part of Letters Patent No. 270,635, dated January 16, 1883.

Application filed September 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. CASTOR, a citizen of the United States of America, residing at Marston, in the county of Mercer and State of Illinois, have invented certain new and useful Improvements in Doors; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain devices arranged in connection with a door in such manner that the same can be opened or closed without the use of the hands; and it consists in certain features hereinafter described, and specifically set forth in the claims.

Referring to the drawings, Figure 1 is a side elevation, partly in section, of a door embodying my invention. Fig. 2 is a perspective of the same closed, and Figs. 3 and 4 are details in perspective. Fig. 5 is a transverse section of a door having applied thereto a spring, and represents the same closed. Fig. 6 is a similar view, the door being open.

Like letters refer to like parts in all the figures.

This invention is intended for application to cellar and other flat, horizontal, or inclined doors; and the principal object in view is to enable a person to open and close them with the foot, thereby avoiding the necessity of emptying the hands of any articles which are commonly stored in cellars and underground milk-rooms.

A represents an ordinary door of the class mentioned, mounted on hinges B, to cover a passage or entrance, C, to a cellar.

D represents a shaft mounted in bearings d' , located in a line parallel with the hinge-line of the door, which shaft is, beyond the bearings, bent to form outwardly-inclined crank-arms d^2 d^3 , the former being provided with a friction-roller, d^4 , and the latter with a weight, d^5 , sufficient to counterbalance the door A. A chain, d^6 , is secured to the weight and to the inner surface of the cellar-wall, to limit the movement of the weighted end of

lever D and of the free end or side of the door. The arm d^2 passes through a staple, d^7 , secured to the door.

E represents a securing latch or bolt pivoted to the door, and by the spring e constantly pressed outward. A bracket, e' , retains the bolt and spring in proper relation to each other. The door is slotted at a , just above the free end of the latch or bolt E, and through the slot an upwardly-projecting stud, e^2 , of the latch or bolt extends, and another stud or arm, e^3 , projects inwardly along the under surface of the door. A button, e^4 , is provided for securing the bolt in a locked position by swinging said button under the arm e^3 when the door is closed. An ordinary catch, e^5 , (see Fig. 4,) is secured to the frame of the door at such a point that when closed the bolt will ride upon and, by the spring e , be pressed into a notch, step, or shoulder therein, as is usual in drop-latches on ordinary upright doors.

Upon the outer surface of the door and over the slot a is secured a stirrup or covering, F, which is made of cast or sheet metal and provided with a flange, f , through which the fastening-screws pass. The form of the covering is such as to prevent entrance of rain into the slot, to protect the latch-lug e^2 from being injured or unintentionally operated, to permit the introduction of a foot to operate the lug and bolt, and to serve as a means whereby the door may be raised by a foot clear from the engagement of the bolt with its catch.

This being the construction, the operation is apparent—viz., the door being counterbalanced by the weight, a very slight effort, after releasing the bolt from the catch by pressing the lug e^2 with the foot, as shown in Fig. 2, gives it sufficient force to swing open, when the staple d^7 and chain d^6 retain it from passing permanently beyond an upright position, as shown in Fig. 1.

To close the door a foot is placed back of it, and it automatically locks itself, the weight rising to the position shown by dotted lines, Fig. 1.

It is apparent that the object of the invention is readily secured, and that a person can enter and leave the cellar or milk-room without emptying the hands, and yet feel assured

that no entrance thereto can be gained by domestic animals or stock, to the injury of articles stored therein.

In some instances cellar-doors are located at the corner of a building, and the application of a weight to the lever D necessitates swinging the door in the opposite direction and changing the location of the hinges. In such cases I substitute a spring for the weight, such spring consisting of a steel rod coiled at its center and extended to form two arms, one of which passes through the staple d^7 , and may be provided with a roller, as d^4 , and the other arm of which spring rests upon one of the steps at the back edge or side thereof, as clearly shown in Fig. 5.

When a spring is used instead of the weight d^5 , I secure one end of the spring D' to the door-framing, or, if desired, upon a step of the passage-way C, and the other end of the spring is passed through the staple d^7 , when upon releasing the arm e^3 , as above described, the door is automatically opened by the spring.

Having described my invention, what I claim

as new, and desire to secure by Letters Patent, is—

1. The combination of the shaft D, provided with the counter-balance and friction-roller, with the door A, provided with the staple d^7 , bolt E e^2 , and stirrup F, substantially as shown and described.

2. The combination of the slotted door A, bolt E, having arms or lugs e^2 e^3 , spring e , and button e^4 , substantially as shown and described.

3. The combination of the slotted counter-balance-door, the stirrup F, and a bolt having a lug, e^2 , substantially as shown and described.

4. The combination of the door A, slotted at a , the bolt E, having the lugs e^2 e^3 , the spring e , the staple d^7 , the shaft D, having the inclined arms d^2 d^3 , the weight d^5 , and chain d^6 , substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM S. CASTOR.

Witnesses:

L. H. CASTOR,

B. C. TALIAFERRO.