

(Model.)

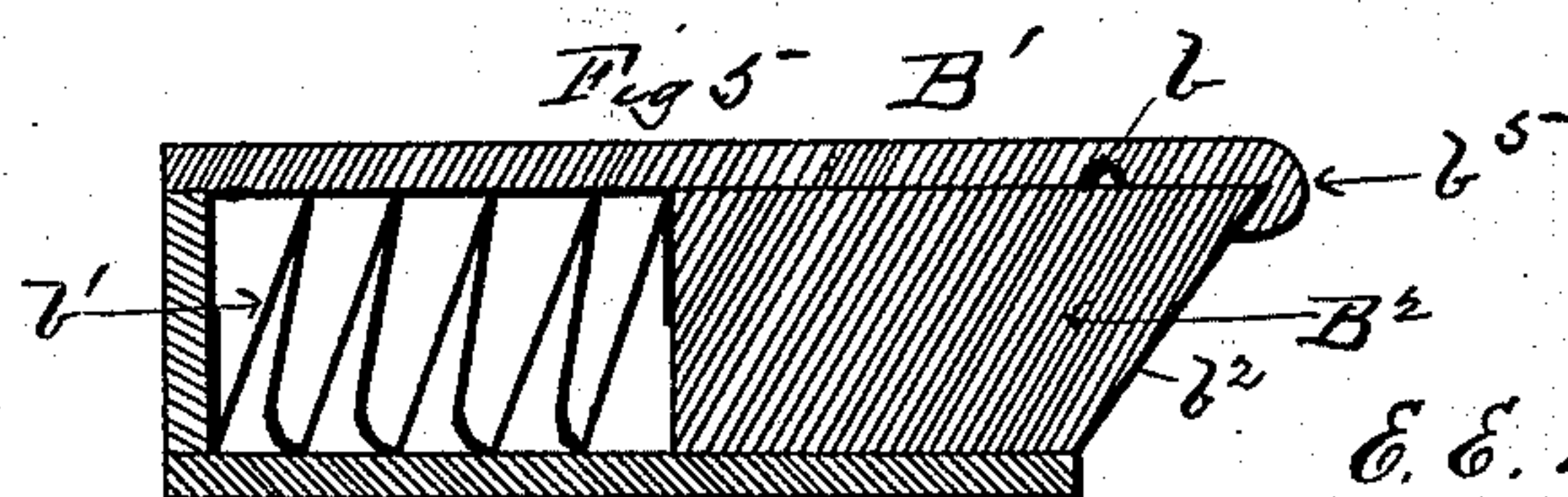
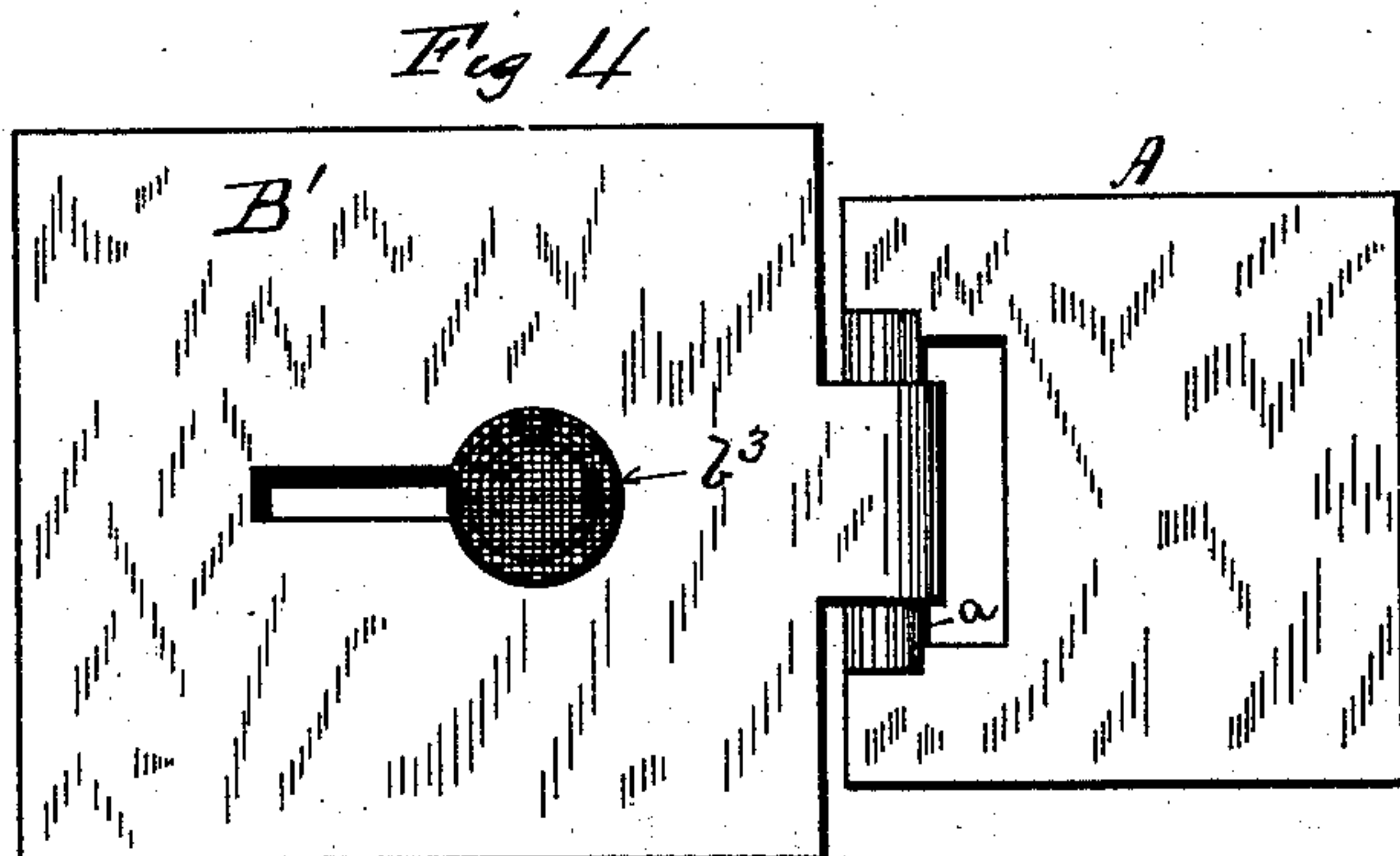
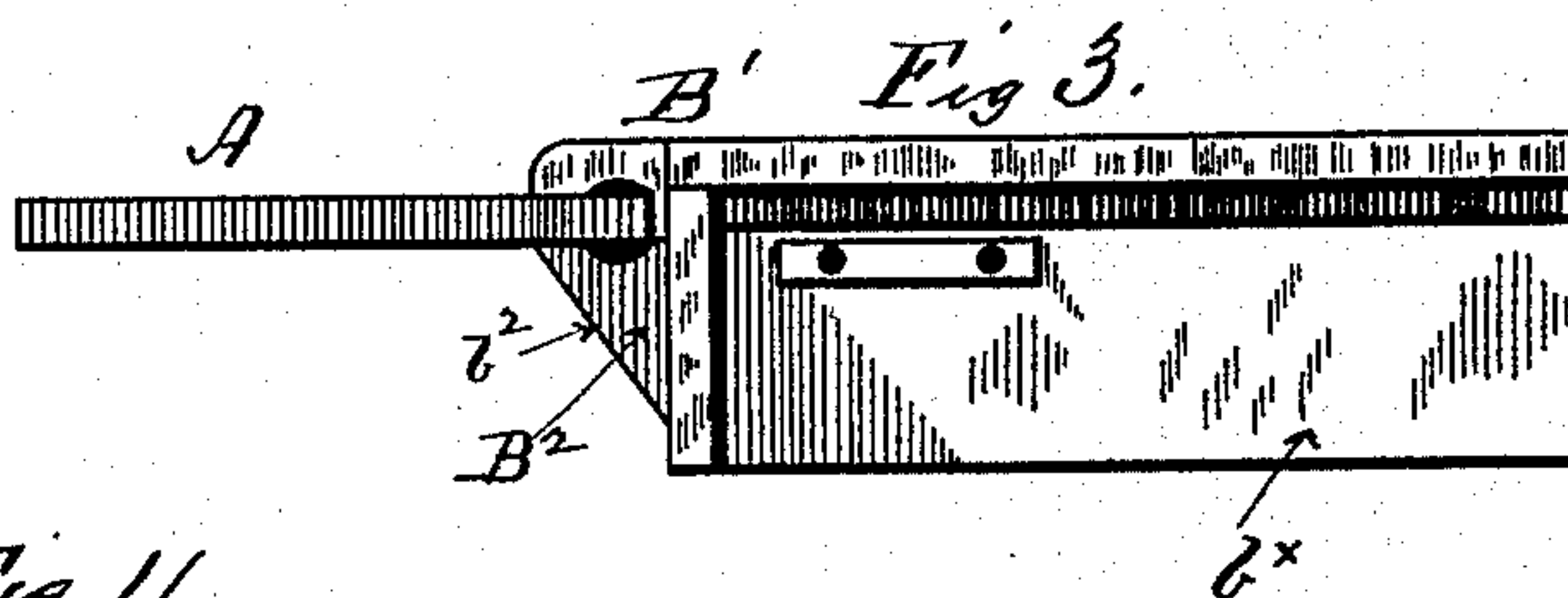
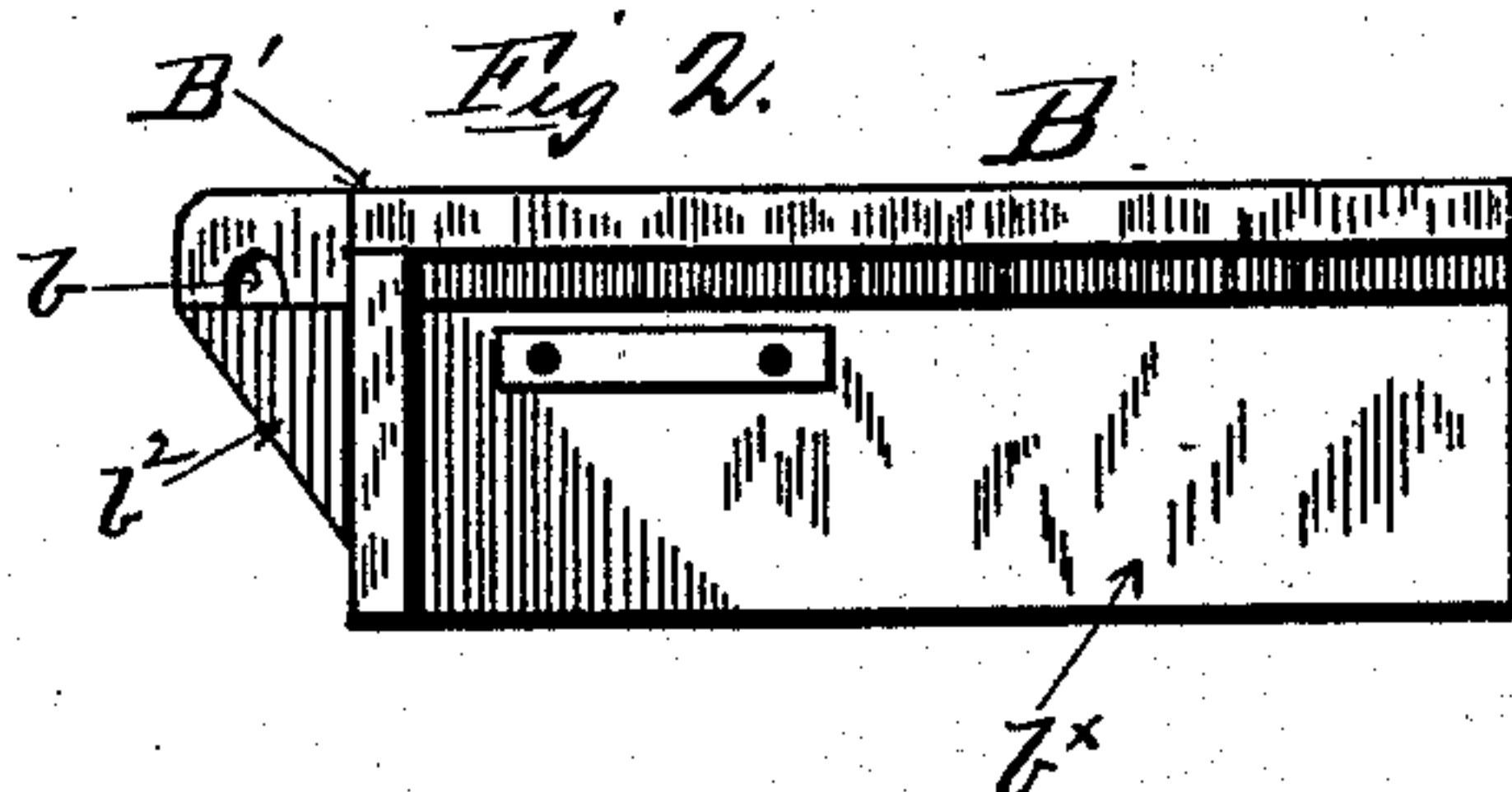
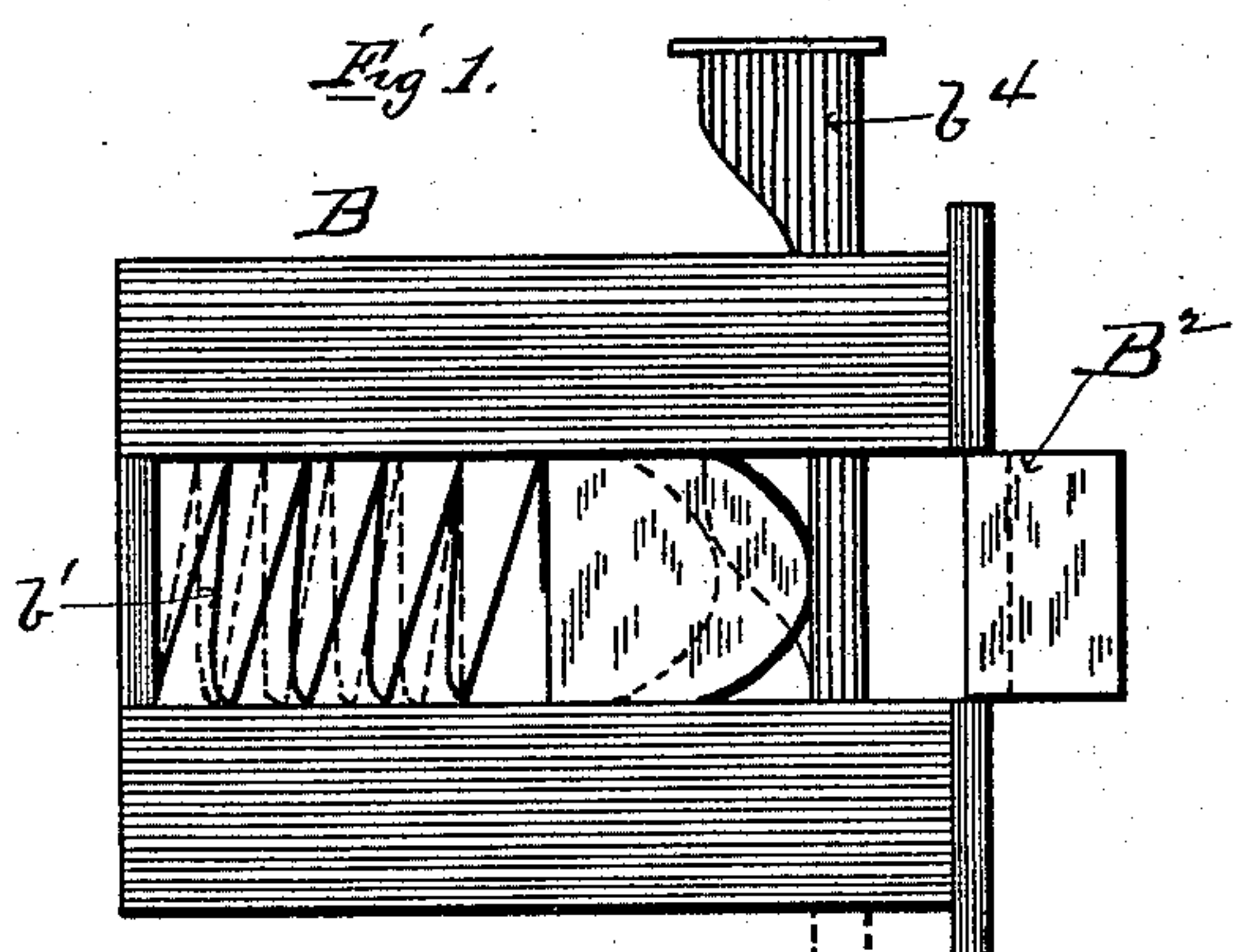
3 Sheets—Sheet 1.

E. E. DE KALB.

LATCH HINGE.

No. 413,298.

Patented Oct. 22, 1889.



Witnesses
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(Model.)

3 Sheets—Sheet 2.

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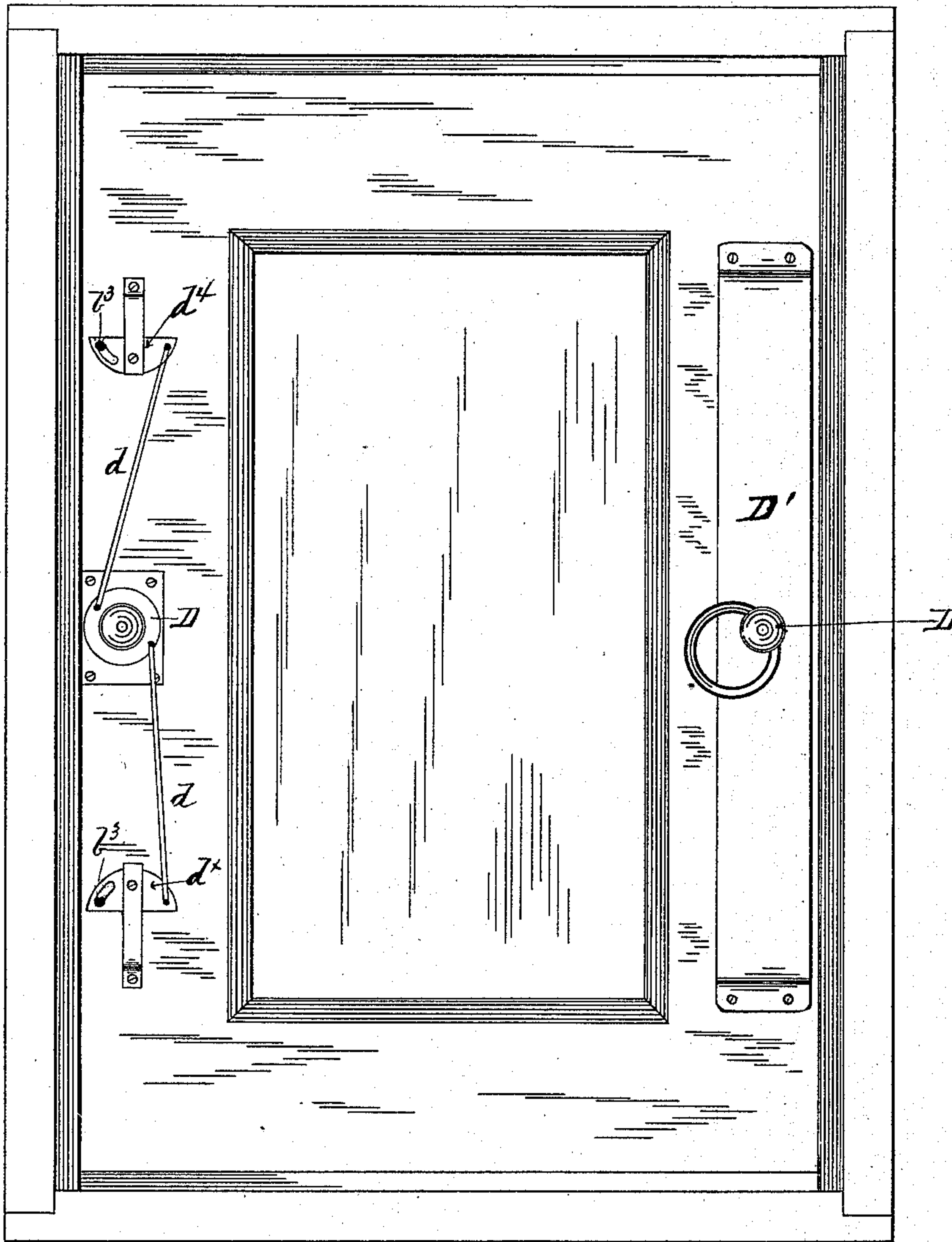


Fig. 6.

Witnesses

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(Model.)

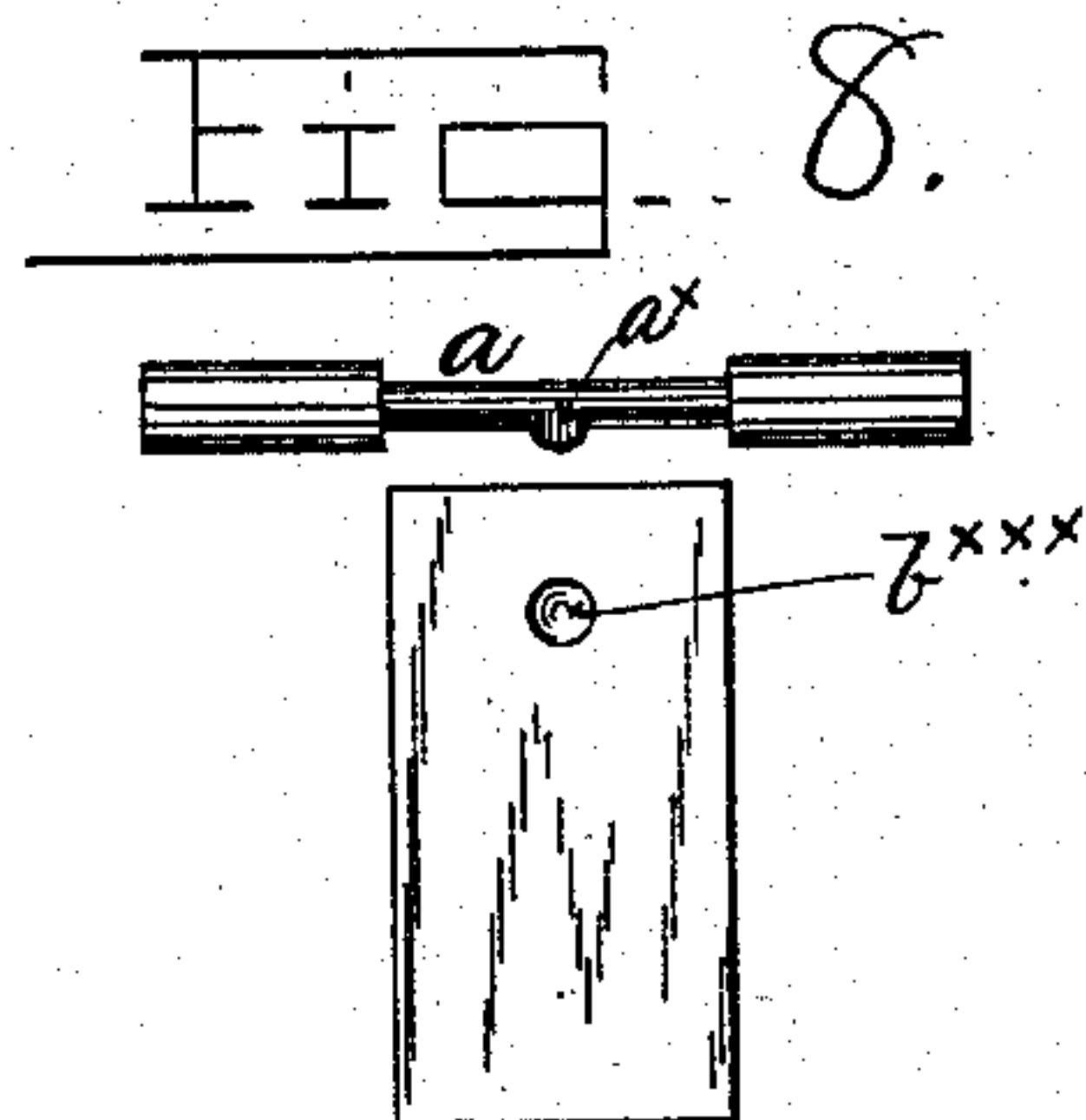
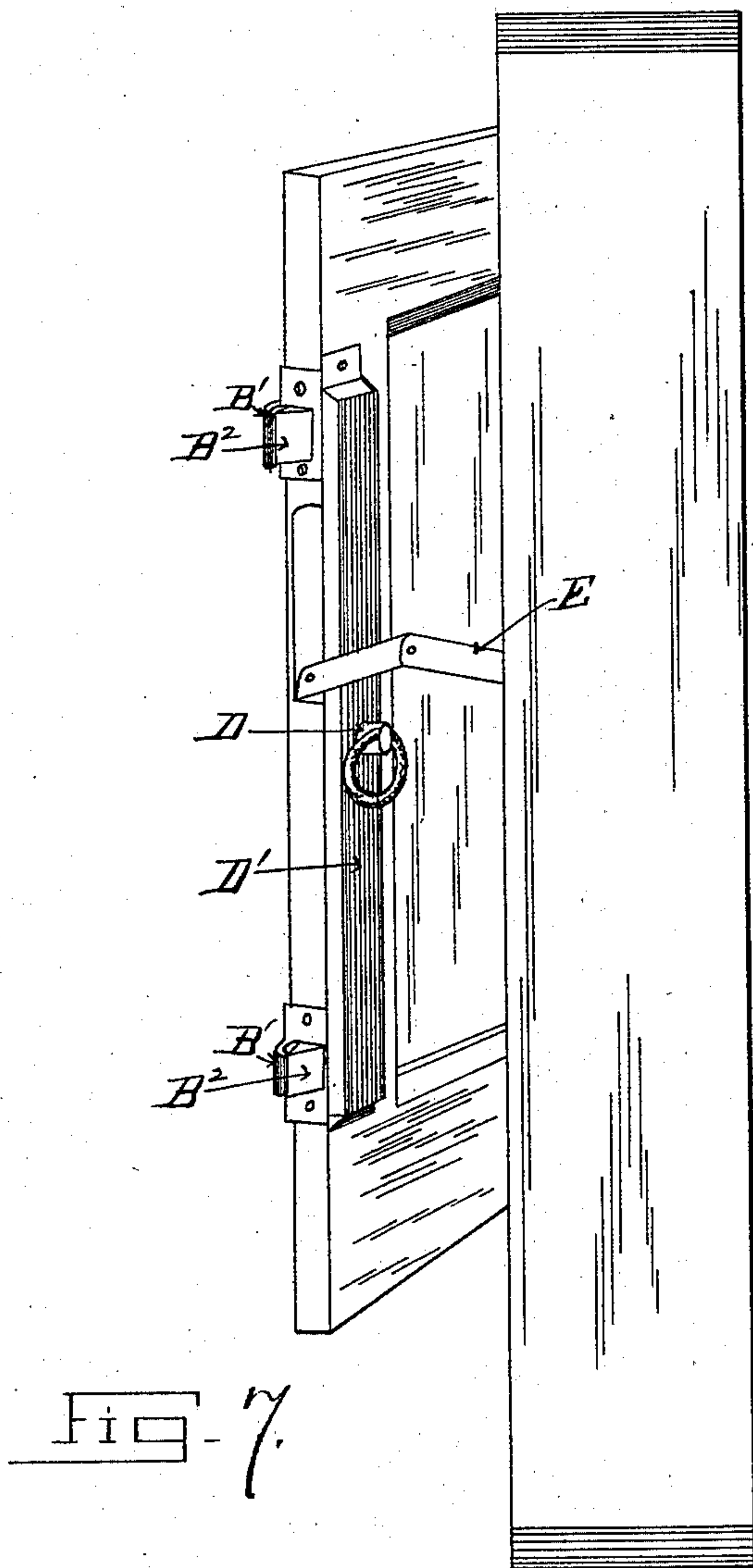
3 Sheets—Sheet 3.

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Patented Oct. 22, 1889.



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UNITED STATES PATENT OFFICE.

ENOCHE E. DE KALB, OF SYRACUSE, NEW YORK.

LATCH-HINGE.

SPECIFICATION forming part of Letters Patent No. 413,298, dated October 22, 1889.

Application filed December 21, 1886. Renewed October 3, 1888. Again renewed April 8, 1889. Serial No. 306,487. (Model.)

To all whom it may concern:

Be it known that I, ENOCHE E. DE KALB, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Latch-Hinges; and I 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to latch hinges or devices which serve the double function of latch or fastening to secure a swinging or removable part and of a hinge on which said part may turn or swing. In many situations such a device is very essential to a proper use of the parts and to the comfort and purposes of the user. In car-windows, which in summer-time or in warm and mild climates it is desirable to have open, the provision of my latch-hinge on both sides of the car-window permits the same to be opened in either direction. In the case of shutters to a house or other structure, where it is desirable to open them in the ordinary way at times, and at other times to swing them out from the top in the form of awnings, my device is eminently useful. Applied to doors I am enabled to swing the door from either side, and in various other situations the latch-hinge will be useful and necessary.

In carrying out my invention I employ as one leaf or portion of the hinge a construction very much resembling the ordinary leaf or side of a common hinge bearing the pintle as a fixed part thereof. The opposite leaf or part is composed, essentially, of two parts, one of which contains the socket for the pintle and is fixed or stationary, and the other, which closes over the pintle when in the socket and holds the two leaves together, is movable and can be withdrawn from over the socket, and thereby release the pintle. This movable portion is provided with a spring for keeping it normally closed over the socket, and with some suitable means for withdrawing it when desired. The movable part is preferably held in a case secured upon the fixed portion which

bears the socket, and the end of the movable portion is beveled, like the latch of a door, so that it will yield to the pressure of the pintle and automatically engage the same.

I make provision for operating the latches from any part of the door, window, or sash by means of levers and bars or cords, and for holding the window, door, or other part partially open by means of a folding jointed lever.

The accompanying drawings illustrate what I consider the best means for carrying my invention into practice.

Figure 1 is an interior elevation of one part of the hinge. Fig. 2 is an edge view of one leaf or side of the hinge. Fig. 3 is a view similar to Fig. 2 with other leaf of the hinge applied. Fig. 4 is a rear elevation of both leaves of the hinge. Fig. 5 is a sectional view of a form of the latch side or leaf of the hinge. Fig. 6 is an inside view of a window with my invention applied to both sides thereof. Fig. 7 is an edge view of the window with the sash open. Fig. 8 is a detail view showing a means for locking one side of the window while the other side is open, so that both sides cannot be opened at once.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

I will first describe the device in itself, explaining its operation and the several forms in which it may be produced, and then give several illustrations of its application in various situations.

A is one side or leaf of my hinge-latch, made in the ordinary form of a hinge-leaf, with the pintle *a* fixed therein. The pintle *a* may be formed with the leaf A, or may be inserted through the ears *a'*, as in the case of the ordinary hinge. B is the opposite side or leaf of the latch-hinge. This side consists, essentially, of two parts B' and B². Of these B' is a fixed and stationary part having the socket *b* in its projecting end, which socket receives the pintle *a* of the leaf A. The part B² is movable or adjustable in the direction of its length, and closes over the socket *b* and holds the pintle therein, or can be withdrawn to release the pintle. A spring *b'* is applied to the part B² to keep it normally over the socket, and at the same time to permit it to

be withdrawn when it is desired to remove the pintle a . The part B^2 and spring b' are preferably inclosed in a case b^x , which is secured upon part B' , and both together fastened to the jamb or post, or frame, or door, or sash, as the case may be. The projecting end of part B^2 is beveled on its exposed side, as shown at b^2 , so that when the pintle comes against it it will be forced back, and when the pintle is in the socket the spring b' will throw the latch part B^2 out over the socket and hold the pintle in place securely until the part B^2 is purposely removed or withdrawn.

It will be understood that the leaf or side B may be secured upon the swinging part as a door or sash, or upon the fixed part, as desired. It may be preferable to secure it upon the swinging or movable part, as when thus attached it is more easy of access and can be manipulated more readily.

To provide for readily withdrawing the latch B^2 from over the pintle, I may provide a thumb piece or pin, as shown at b^3 , Figs. 4 and 6, or a wedge, as shown at b^4 , Fig. 1.

To prevent the withdrawing of latch B^2 while the window, door, or sash is opened from the opposite side, the pintle a is provided with a locking projection or lug a^x , Fig. 8, which engages in a depression b^{xxx} in the latch part B^2 when the window, door, or blind is swung open from the opposite side, and effectually locks the latch part B^2 and prevents it from being withdrawn until the window is closed again. The relative location of the lug upon the pintle insures the proper locking and also permits the ready withdrawal of the latch when the window is open or closed, respectively.

Other modifications of the device may be made within the scope of my invention, the essential features of which, as will be readily perceived, are the fixed part with the socket for the reception of the pintle, and the movable part, which can be caused to hold the pintle in place or withdrawn to release it.

The applications of the device are numerous. In Figs. 6 and 7 I have shown it applied to a car or other window; but it will be understood that it can be used upon doors, shutters, and in various other situations where its utility may be availed of. As applied to a window or door, I preferably use two hinges on each side, and connect them, through the medium of the pins b^3 , levers or cams d^x , and levers d , with a central arm or disk D , the turning of which will throw the parts B^2 back and permit the window to be opened. When thus arranged, I preferably cover the parts d^x ,

d' , and D with a shield D' , as shown on the right hand of Fig. 6, (this shield being removed on the left-hand side of the same figure to display the parts.) The swinging window will be connected with the frame by means of a jointed lever, as shown at E , Fig. 7, which will hold the window open, as shown, but which will fold together and permit the window to be closed, when the lever will lie between the sash and the frame. When one side of the window is open, the projection or lug a^x lies in the depression b^{xxx} on the latch B^2 on the opposite side of the window, and prevents that side from being opened until the other side is closed, when the shifting of the position of lug a^x by the turning of the pintle a when the window is shut permits the latch B^2 to be moved again. The lever d^x has a groove in one side, as shown, which embraces the pin b^3 of the hinge, and as the lever is turned the pin must of necessity draw the sliding latch back.

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

1. A latch-hinge consisting of one leaf or side having a pintle and a second leaf or side having a receptacle for the pintle, and a sliding latch for holding the pintle in said receptacle, or releasing it therefrom, substantially as described.

2. A latch-hinge consisting of a leaf or side having a pintle and a leaf or side having a receptacle for the pintle, and a spring-actuated sliding latch for closing over the pintle, as set forth.

3. A latch-hinge consisting of a leaf or side having a pintle and a leaf or side provided with a receptacle for said pintle, and a spring-actuated sliding latch for closing over said pintle when in the receptacle, and provided with means, substantially as described, for withdrawing said latch.

4. In a latch-hinge, the combination of the part B' , having the socket for the pintle, and the sliding spring-latch portion B^2 , with the leaf A and pintle a , having the lug or projection a^x .

5. The combination, with a latch-hinge having the spring-latch portion, of the lever for operating said latch portion, and a wire, rod, or cord extending to a knob or handle, substantially as and for the purpose set forth.

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

ENOCH E. DE KALB.

Witnesses:

J. J. GREENOUGH,
JAMES DEVINE.