

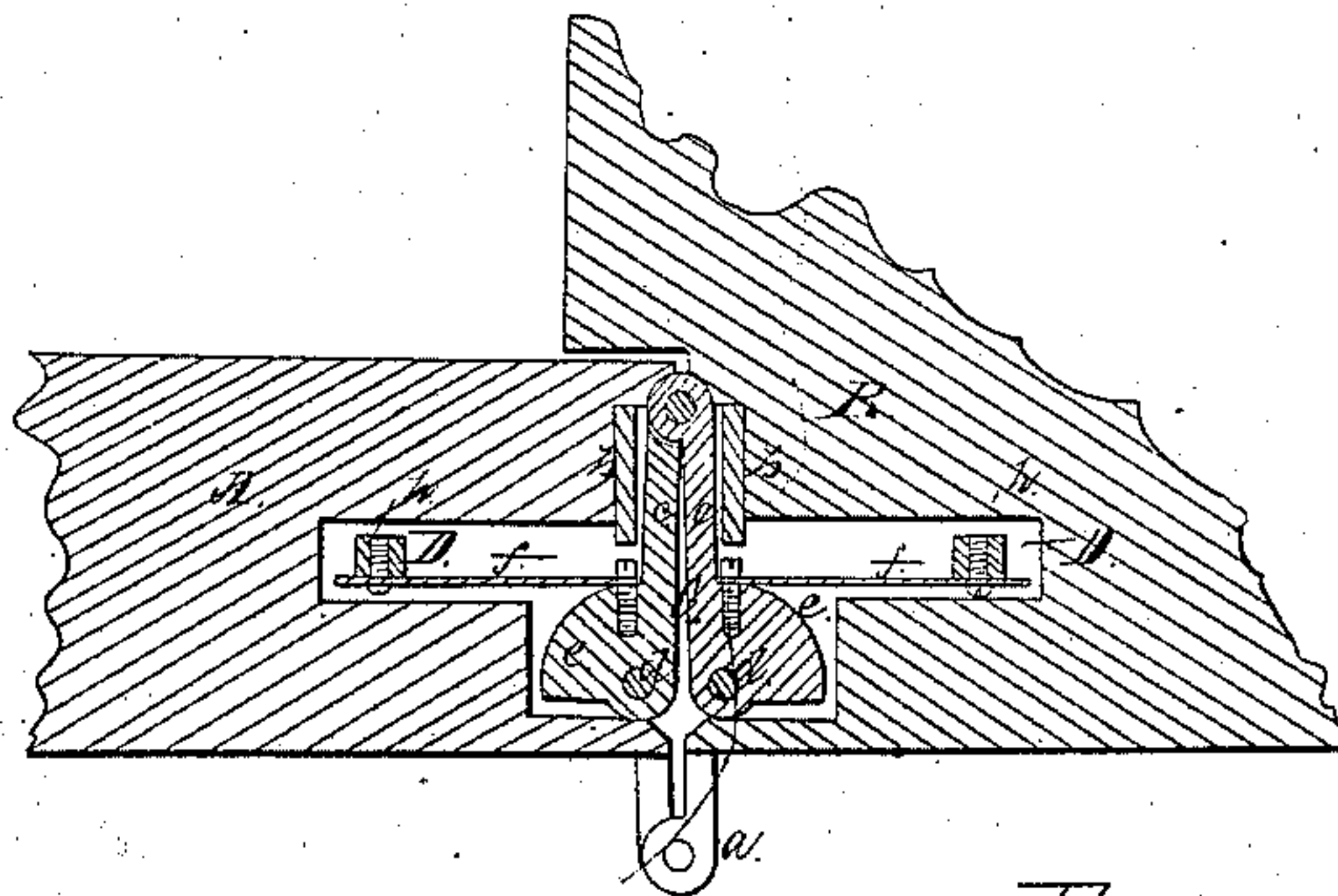
*J. Broughton,*

*Door Spring*

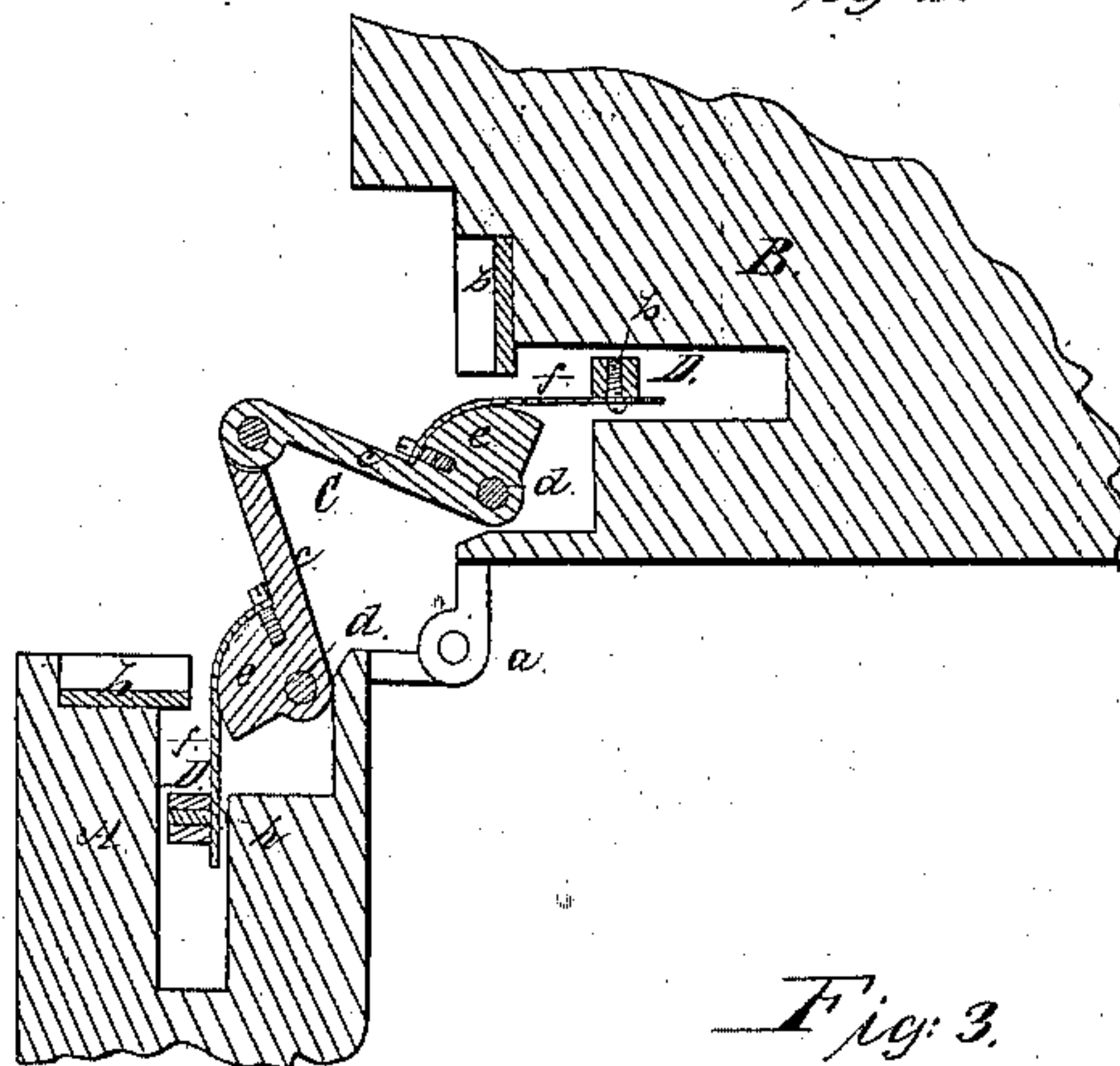
*N<sup>o</sup> 15,555.*

*Patented Aug. 19, 1856.*

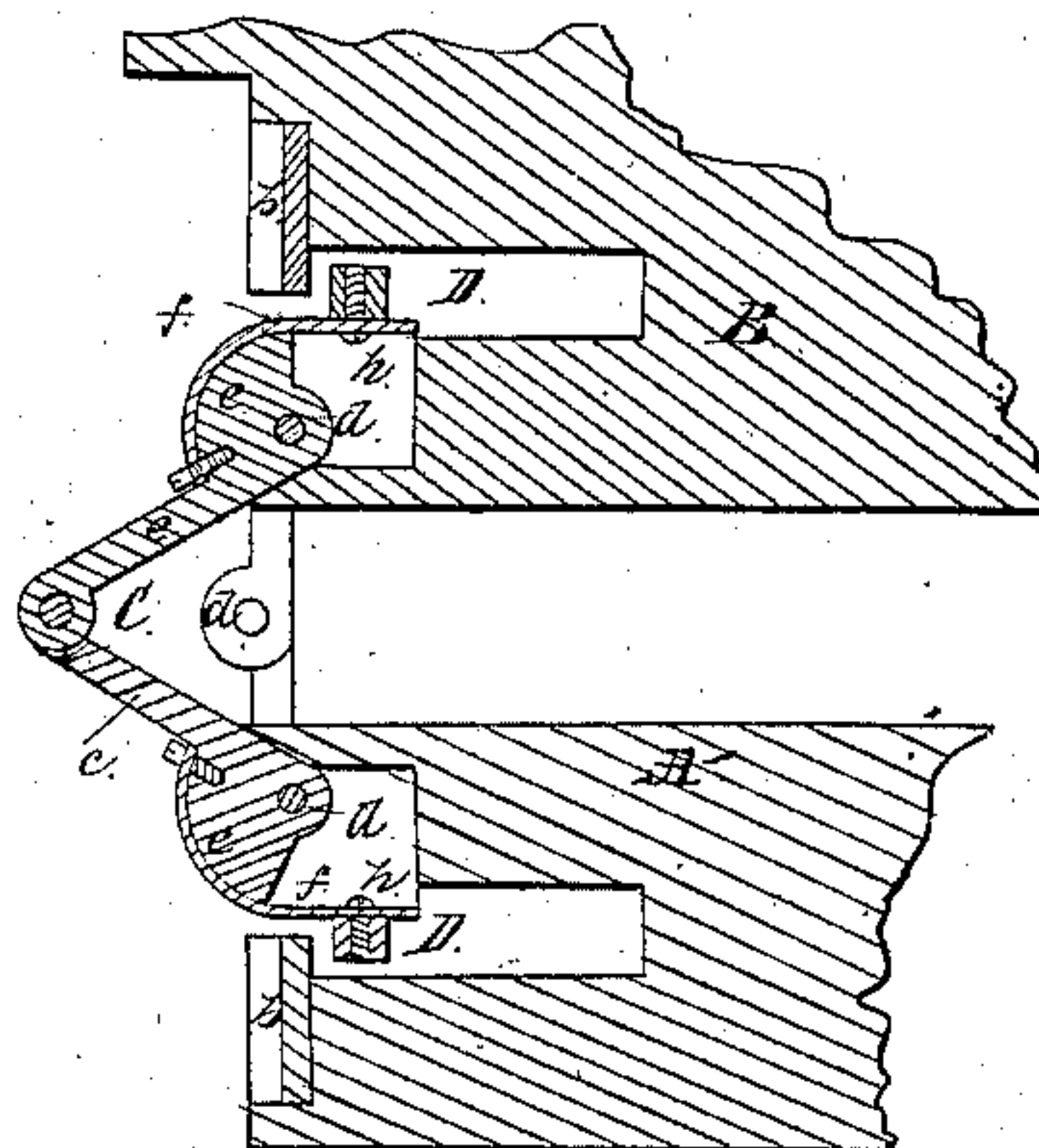
*Fig. 1.*



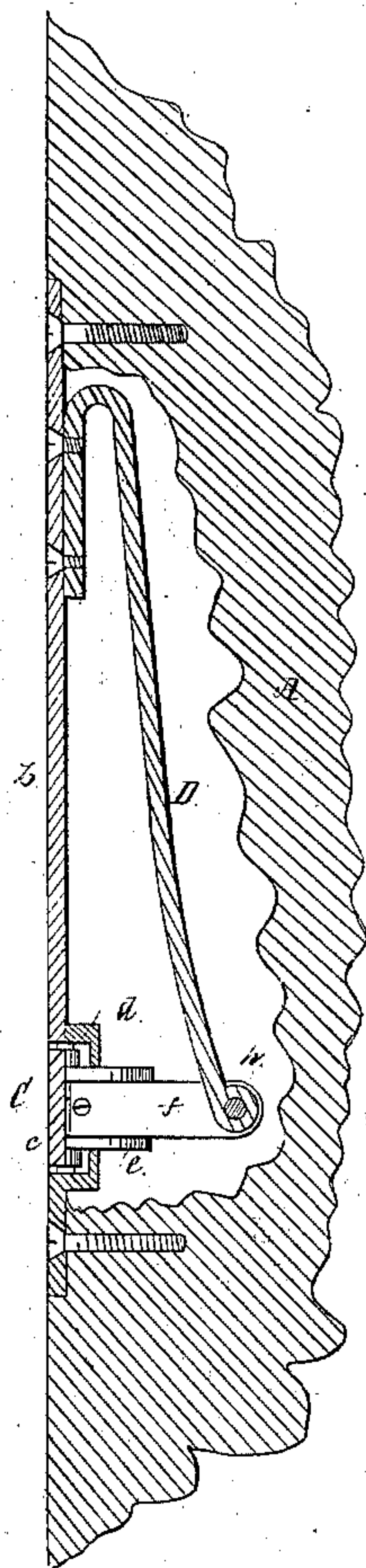
*Fig. 2.*



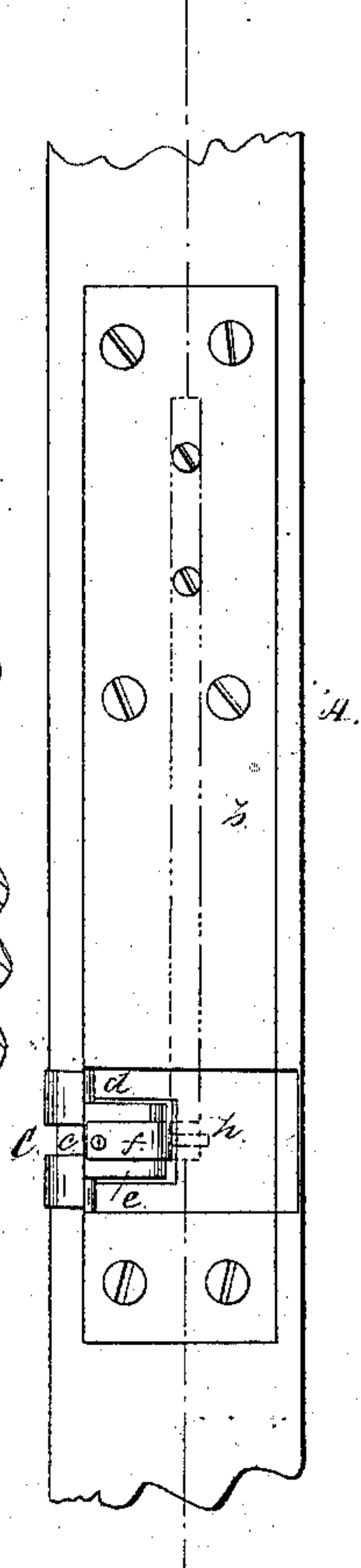
*Fig. 3.*



*Fig. 5.*



*Fig. 4.*





# UNITED STATES PATENT OFFICE.

JOHN BROUGHTON, OF CHICAGO, ILLINOIS.

## DOOR-SPRING.

Specification of Letters Patent No. 15,555, dated August 19, 1856.

*To all whom it may concern:*

Be it known that I, JOHN BROUGHTON, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Door-Spring; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1, is a horizontal section of a door and jamb with my improved spring arrangement applied to them. This view shows the position of the parts when the door is closed. Fig. 2, is a similar section, 15 showing the position of the parts when the door is opened so as to stand at right angles to the face line of the jamb and wall. Fig. 3, is also a similar section showing the position of the parts when the door is opened 20 so as to stand with its face parallel with the face line of the jamb and wall. Fig. 4, is an edge view of the door detached from the jamb, and having one half of the arrangement, forming the spring, attached to it. 25 Fig. 5, is a vertical section of the same through the line  $x, x$ , in Fig. 4.

Similar letters of reference indicate corresponding parts in the several figures.

30 The nature of my improvement consists in a novel arrangement, hereinafter specified, to be applied in connection with a door for the purpose of rendering it self-closing; said arrangement combining great simplicity and durability and when on the door, 35 and the door closed, being invisible.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

40 A represents a portion of a door and B a portion of a door jamb. The door A, is hinged as at  $a$ , to the jamb in the ordinary manner.

45 C, is an additional butt hinge; its leaves are counter sunk, so as to fold flush with the door jamb, in metal face plates  $b, b$ , which are to be fitted in the edge of the door and jamb as shown. This hinge folds and unfolds the reverse of those  $a$ , and stands in close relation to the lower one of

the same and each of its leaves  $c, c$ , has a fulcrum,  $d$ , on the face plate of the door and jamb, and near said fulcrum and on the outer side of each of the leaves  $b$ , a quadrantal projection  $e$ , is formed as represented.

D, D, are flat or other suitable springs 55 fitted so as to play loosely in recesses of the door and jamb. The upper ends of said springs are attached fast to the backside of the metal face plates  $b, b$ , and the lower end of the same hangs loosely and is connected to the leaves of the hinge by a thin 60 elastic tug  $f$ , which is attached by a fulcrum pin or screw  $h$ , to the lower end of the springs and passed from the same to and behind the quadrantal projection of the 65 leaves and then fastened to the same by screws or otherwise, as desired.

The parts thus arranged are adjusted to the door and jamb and confined and held in place by the face plates which are screwed 70 firmly to the door and jamb, as shown.

Operation: By opening the door, the leaves of the hinge C, are caused to unfold in the manner illustrated in Figs. 2 and 3, and consequently the quadrantal projec- 75 tions are turned so as to cause the thin elastic tugs to coil around them and thereby to become shortened and consequently to draw the end of each of the springs toward the edge of the door and jamb and thus bring 80 the springs into action and cause them to exert a powerful strain upon the leaves of the hinge, and when the door is set free cause them to fold together and close the door. 85

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

The employment of an additional hinge C, unfolding and folding the reverse of the hinges  $a$ , and having formed on each of its 90 leaves, a quadrantal or other suitable projection, in combination with the flat or other suitable springs D, D', substantially as and for the purpose herein set forth.

JOHN BROUGHTON.

Witnesses:

CALVIN D. WOLF,  
CH. FIELDKAMP.