

E. PRESCOTT.
Door-Hanger.

No. 205,763.

Patented July 9, 1878.

Fig:1.

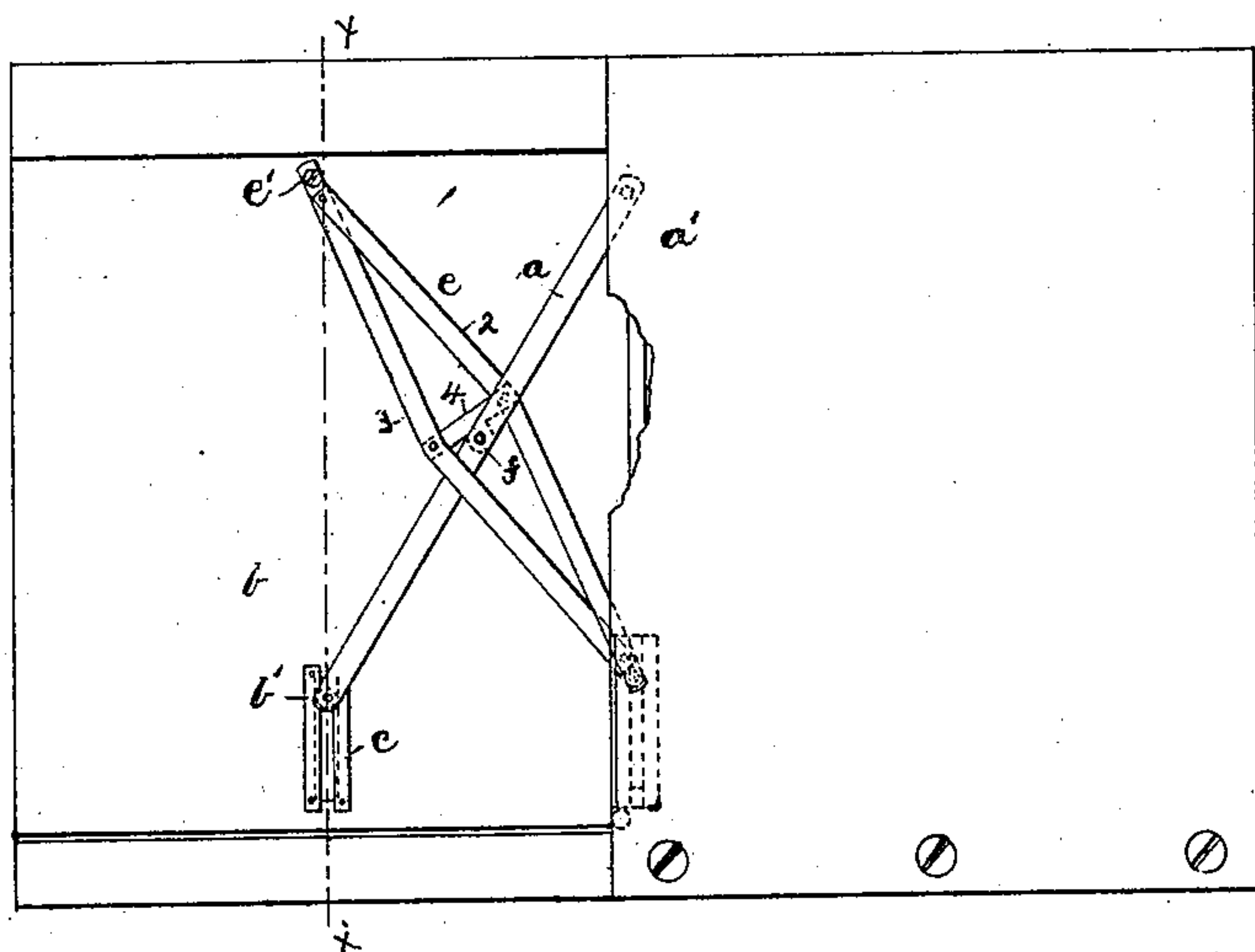


Fig:2.

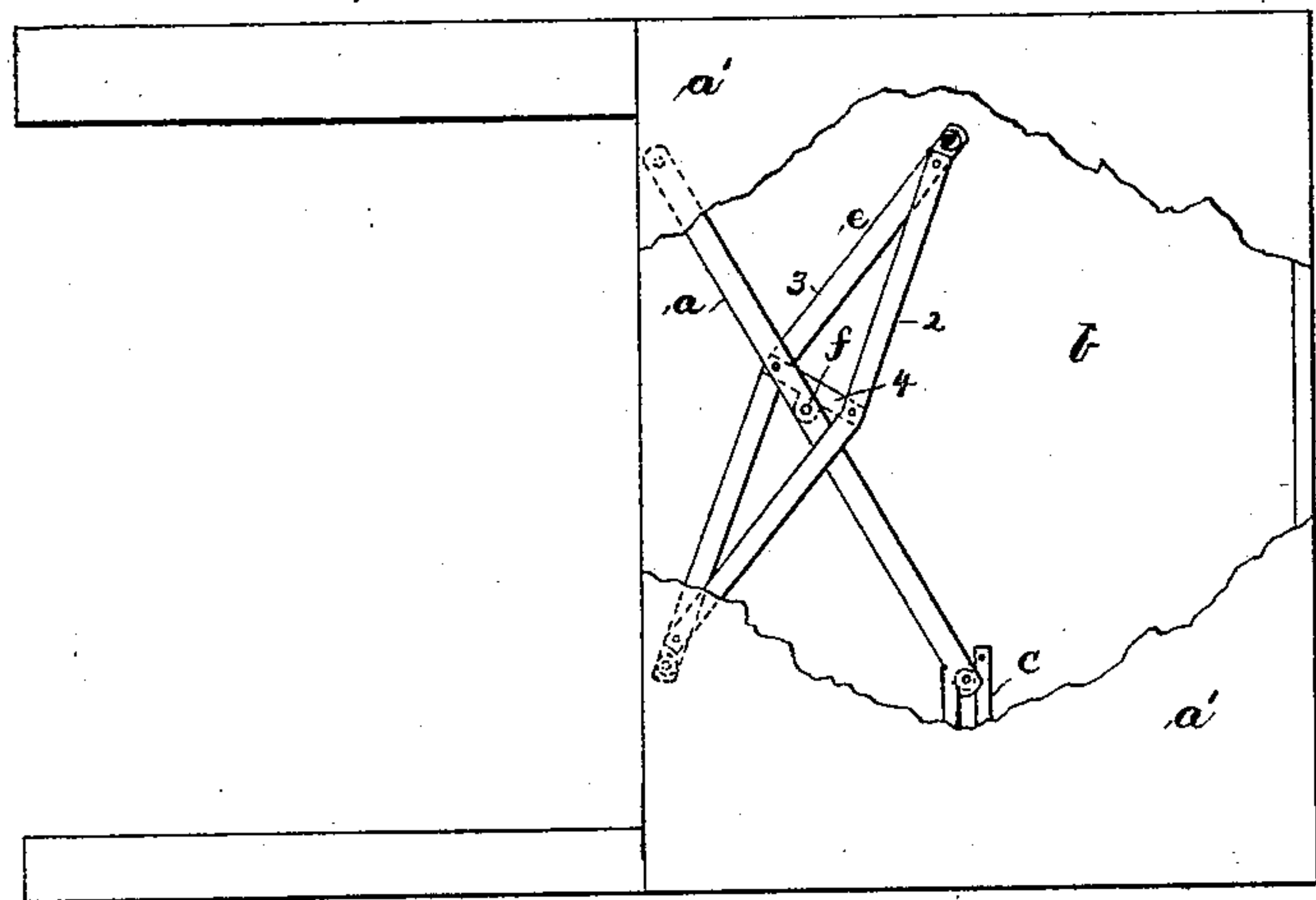


Fig:3.

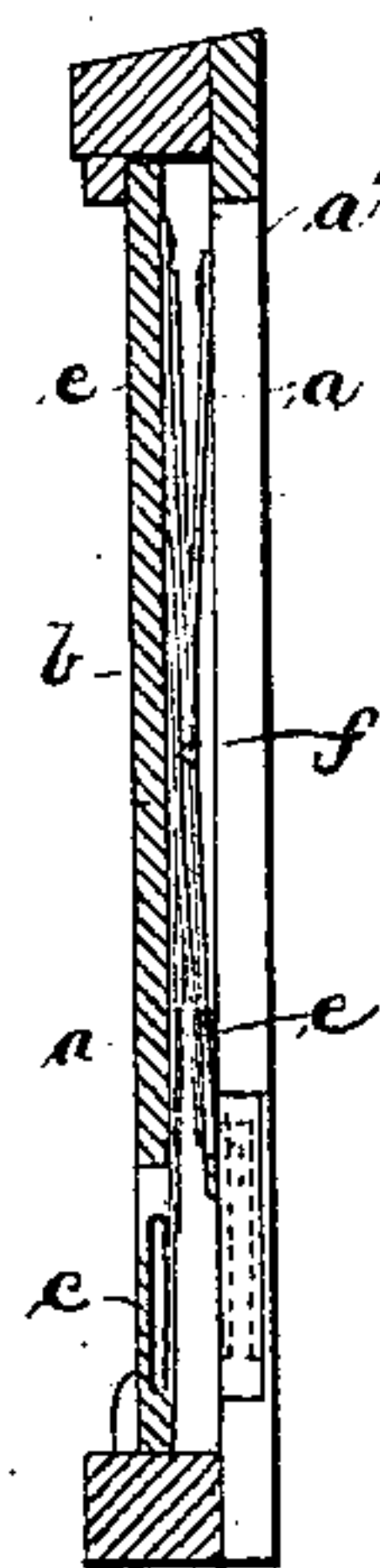


Fig:5.

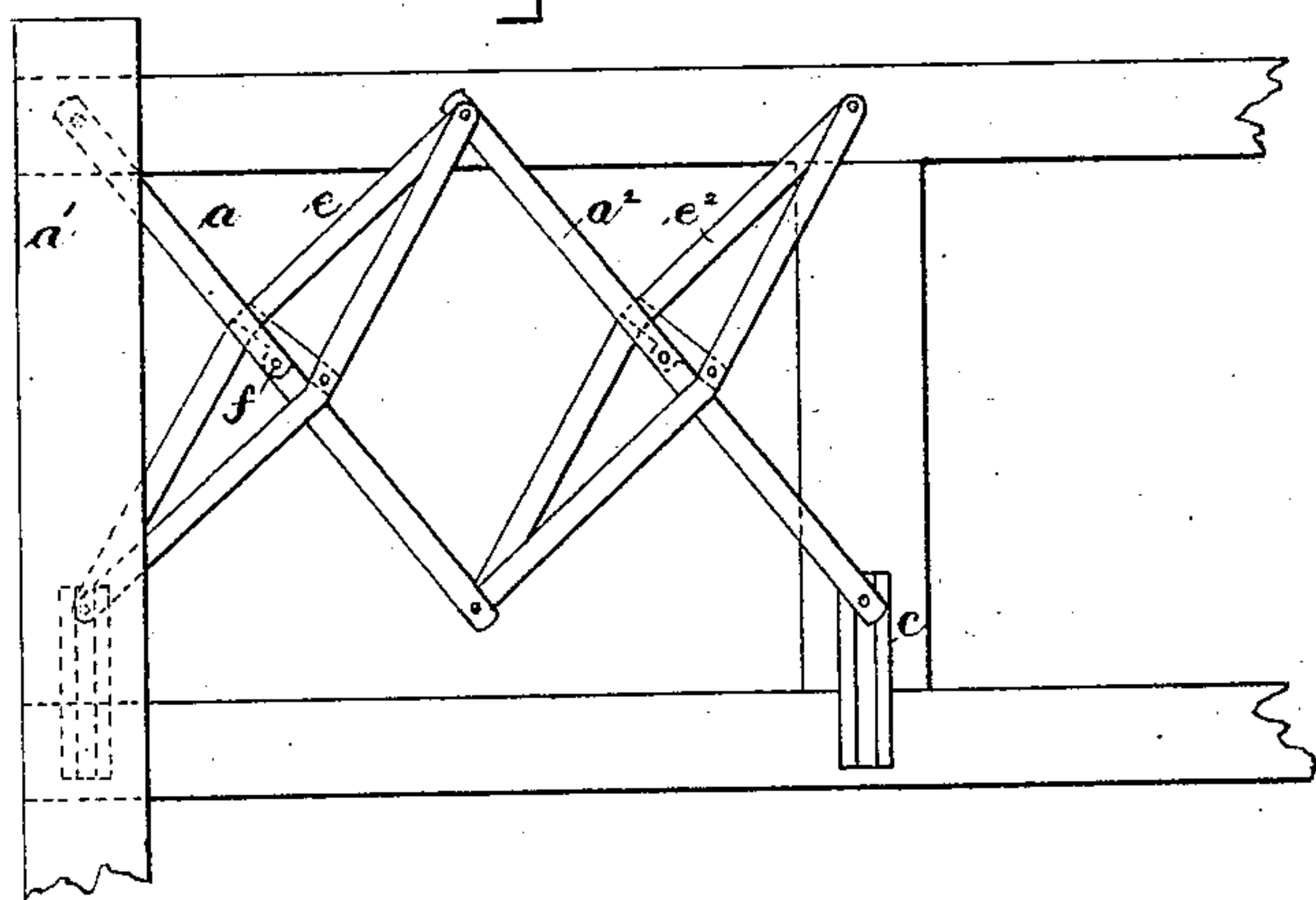
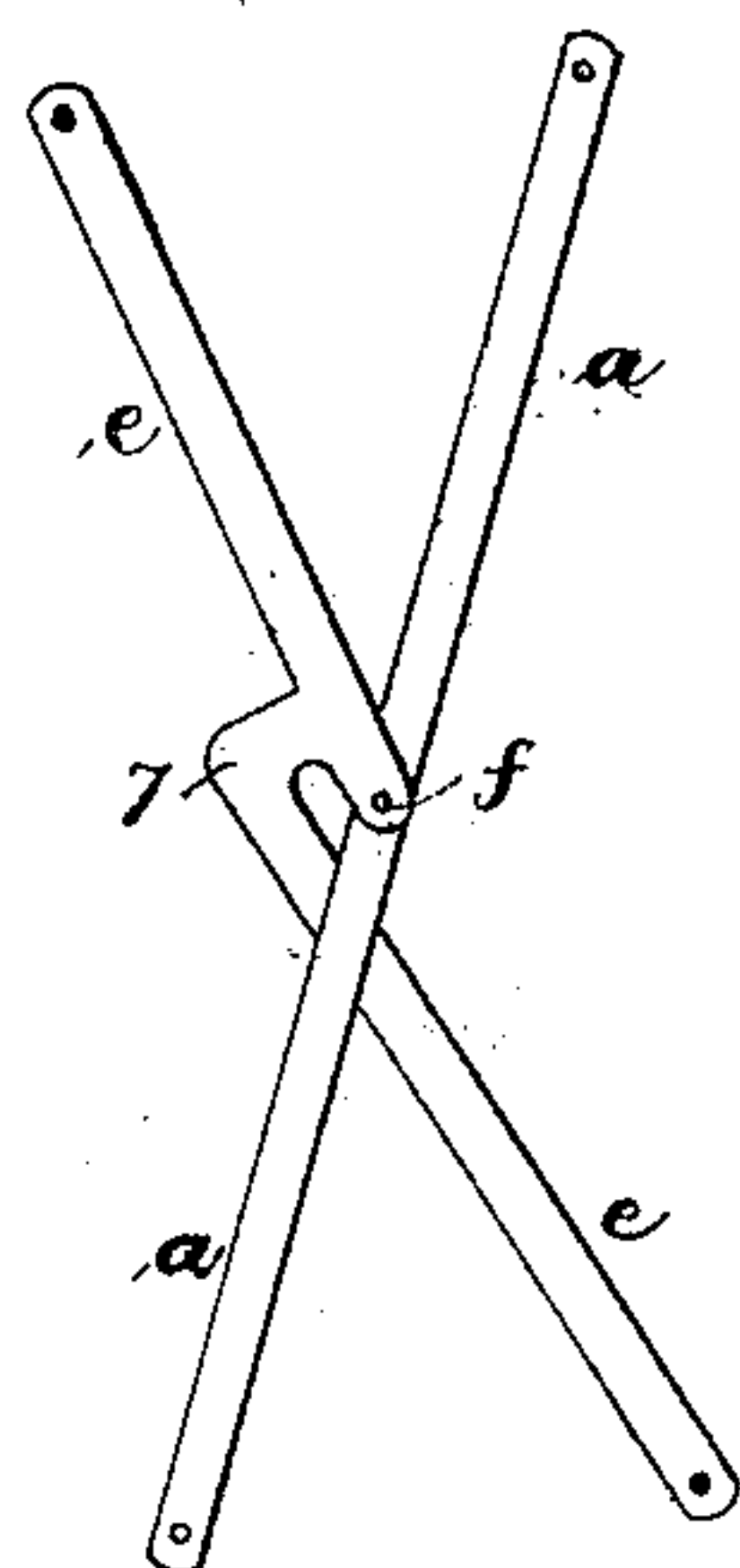


Fig:4.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWIN PRESCOTT, OF HAMPTON FALLS, NEW HAMPSHIRE.

IMPROVEMENT IN DOOR-HANGERS.

Specification forming part of Letters Patent No. **205,763**, dated July 9, 1878; application filed May 3, 1878.

To all whom it may concern:

Be it known that I, EDWIN PRESCOTT, of Hampton Falls, county of Rockingham, State of New Hampshire, have invented an Improvement in Hangers for Doors, Gates, &c., of which the following is a specification:

This invention relates to hangers for doors, gates, &c., and is an improvement on United States Patents Nos. 183,325 and 196,990, heretofore granted to me.

In the latter patent the door is supported by means of two crossed levers, one of which is connected with a radius-bar, the latter making it possible for one lever to pass by the other as the door was opened and closed, such passing of one lever by the other being essential, in order to give to the door the greatest possible extent of movement from two levers of a certain length.

In the latter patent the point of connection between the radius-bar and one lever, as the door moved, passed between the pivotal point of the two levers, and the lower end of the other lever and the radius-bar had to be adapted to the particular width of the door.

The object of this invention is to dispense with such radius-bar, thereby enabling me to construct the hangers so that they can be readily applied to doors irrespective of their width, unless excessively wide, when the levers may be compounded.

In this my present invention I have connected the end of one lever positively with the door and its other end loosely with the post, and the like end of the other lever positively with the post and its other end loosely with the door at or near the center of its width.

In my patent No. 183,325 the connection of the levers with the door was made at its edge rather than at its center, and the levers were substantially parallel when the door was closed and crossed when opened.

In this present invention the connection of the levers with the door is made at or near its center, to enable the levers to support a heavier door, and by so shaping the pivoted levers that when the door is closed they will be crossed, as when the door is opened, I am enabled with levers of the same length to move the door twice the distance that would be possible if the levers did not cross when closed.

This present invention consists, chiefly, in providing one of these levers, at or near its connection with the other lever, with an offset, or so bending one or both of such levers at or near their pivotal points, one with the other, that the arms of the levers each side their common pivotal point will move one past the other, so that the levers cross both when the door is completely opened and completely closed, thereby obviating the necessity of passing the end of one lever between the pivotal point and the connection of the end of the other lever with the post or door, the opposite ends of each lever moving past opposite sides of the other lever.

Figure 1 represents, in side elevation, a closed door hung in accordance with my invention; Fig. 2, the same opened, a part of the building being broken away; Fig. 3, a vertical section thereof on line *x x*, Fig. 1; Fig. 4, a modification, and Fig. 5 a side elevation, showing how the invention may be compounded and applied to a very broad door or gate.

The post-lever *a* is connected at one end—preferably its upper end—with the post *a'* or building, and loosely at its other end with the door *b* at *b'*, the connection being by a stud provided or not with a roller, which enters a guide, *c*, at or near the center of the door. The door-lever *e* is connected—preferably at its upper end—with the door at *e'*, and loosely at its lower end with the post or building, by connections substantially such as shown for the lower end of the post-lever.

The door-lever will preferably be made as a truss, or of two bars, 2 3, connected each with the other at their ends and near their centers by means of a fulcrum-piece, 4, which receives the fulcrum-pin *f*, which pivots the two levers together. The arms of these levers project each side their fulcrum-pin *f*, and it will be noticed the levers are so shaped and connected together at *f* that the lower arm of the lever *a* is made to move past lever *e* at one side, while the opposite end of lever *a* moves past lever *e* at its opposite side. This relative position and movement of one lever past the other may be accomplished by permitting one lever to extend through an opening in the other, as shown in Fig. 1, or by

bending the levers at each side the fulcrum-pin *f*, so that the two arms of one or both levers occupy different vertical planes, or by bending one lever backward at or near its center at 7. (See Fig. 4.) For a very wide door, two sets of levers may be employed, one set being connected with the other, as shown in Fig. 5 of the drawings. The levers *a e* are shown as so connected at *f* that the ends of such levers joined with the door are longer than the ends joined with the post, whereby the levers, as they in the movement of the door approach into parallel positions, act to lift the door, thereby assisting in retaining it in any desired position.

The post-lever having its fulcrum on the post has always a tendency to fall as a pendulum in a vertical position—the position it occupies when the door is half open—and this tendency is increased by the weight of the door-lever pivoted upon it. The upper end of the door-lever and its fulcrum on the post-lever travel as the door is moved in reversed arcs of circles of different radii, the levers being of different lengths from their pivotal point upward, and the door-lever, being obliged to lift the weight of the door as the said lever turns on its moving fulcrum, causes the door to develop a force which opposes the tendency of the levers to assume the vertical position, and consequently the door will remain in any position in which it may be left.

If the connection of the levers with the door were reversed, then the lifting would take

place at the end of the movement of the door, and the same result would be accomplished.

It is immaterial in which lever the bend is made; but the plan shown in Fig. 1 is preferable, and the truss formation of the lever *e* enables me to give the greatest possible strength with the least weight of metal, thereby cheapening the construction of the hangers.

I claim—

1. A post-lever and door-lever, connected substantially as described, whereby the opposite ends of each lever are made to move past opposite sides of the other lever, substantially as described.

2. The post and door levers pivoted together at a point one side of the center of their length, and adapted to move one lever beyond the other at opposite ends upon opposite sides, to operate substantially as and for the purpose described.

3. As a new article of manufacture, hangers consisting of a lever, *a*, and a truss-shaped lever composed of parts 2 3 and fulcrum-piece 4, the lever *a* passing through an opening or recess in lever *e*, substantially as described.

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

EDWIN PRESCOTT.

Witnesses:

SARAH P. GOVE,
JOHN H. GOVE.