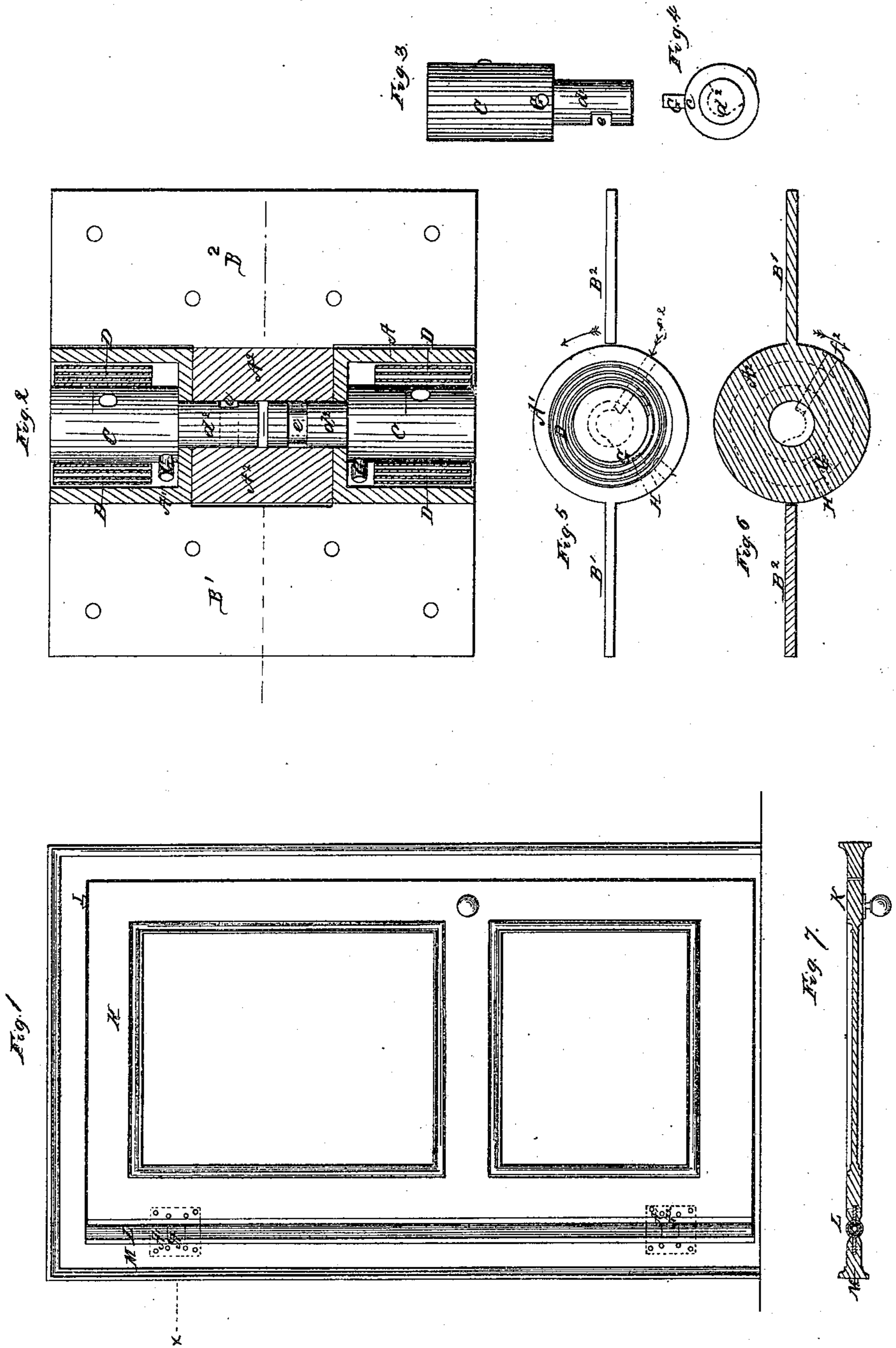


T. F. ENGLEBRECHT.  
DOUBLE ACTING SPRING HINGE.

No. 10,389.

Patented Jan. 3, 1854.



# UNITED STATES PATENT OFFICE.

THEODORE F. ENGELBRECHT, OF NEW YORK, N. Y.

## DOUBLE-ACTING SPRING-HINGE.

Specification of Letters Patent No. 10,389, dated January 3, 1854.

*To all whom it may concern:*

Be it known that I, THEODORE F. ENGELBRECHT, of the city, county, and State of New York, have invented a new and useful Improvement in Double-Acting Spring-Hinges; and I do hereby declare the following to be a full and clear description of the same.

The nature of my invention consists in making the joint of the hinge hollow, and combining with it two pins to form the axis on which the hinge works, and around which are secured flat coiled springs, for reacting the door when opened, and by means of studs or stopping pins in the hinge acting against grooved stops in the center pins, stopping the door from swinging past its center. But to describe my invention more particularly I will refer to the accompanying drawings, forming a part of this schedule the same letters of reference wherever they occur referring to the same parts.

Figure 1, is a side elevation of the door and door frame having the hinge and india rubber hold fast attached. Fig. 2 is a vertical cut section of the hinge. Figs. 3 and 4, are detached views of one of the axis or center pins of the hinge. Figs. 5 and 6 is a longitudinal plan view of the hinge. Fig. 7, is a longitudinal plan view of the door and door frame through the line  $x, x$ , of Fig. 1.

Letters  $A'$  and  $A^2$ , represent the barrel of the hinge. This is made of two pieces of metal a male and female part, having flanges  $B'$  and  $B^2$ , attached thereto for securing it to the door frame and door.

The male part of the hinge  $A'$ , is cylindrical, and has a chamber in each end, and through the bottom of which, is a small hole, of the same diameter, as the center hole in the barrel of the female part of the hinge  $A^2$ . In the chambers are placed two pins  $C, C$ , the inner ends of which  $d^2, d^2$ , are reduced in diameter so as to fit the holes in the center of the hinge, and thereby act as spindles on which the hinge works. Attached to the head of these pins, and in the chamber, are two flat coiled springs  $D, D$ . The upper and lower springs are wound in opposite direction on the pins  $C, C$ , and have their inner ends secured to studs in the pins, and their outer ends to studs in the side of the chamber, so as to confine the springs from expanding or contracting except when the door is being opened.

In the face of the spindles  $d^2, d^2$ , are cut transversely, slots  $e, e$ . These slots extend about half the circumference of the spindles, and begin on the upper and lower spindle in opposite directions at nothing, and end at a stop, so that as the pins  $f^2, f^2$ , passing through the sides of the female part of the hinge  $A$ , acts against the stop, when the door swings shut it prevents the door from swinging past its center.

Letters  $G, G$ , are also studs or stops secured in the head of the spindles  $C, C$ , to act against stop pins  $H, H$ , passing through the sides of the cylindrical chamber. These stop pins act in conjunction with the stops on the spindle, and in pairs, that is one stop on the spindle, and another on the head of the spindle act together when the door is opened outward, and the other pair act, when the door is opened inward.

Letter  $J$ , is a piece of india rubber placed in the frame of the door. The object of this is to prevent the door from rebounding on the sudden closing of the door. The position of the india rubber is not material.

Letter  $K$ , is the door, the back edge of which is beveled off at each side, and the center fluted so as to fit a cylindrical bead  $L$ , formed on the frame  $M$ , of the door. In the edge of this cylindrical bead is placed the barrel of the hinge, so as to leave one of the flanges exposed and be inserted in the fluted edge of the door. The object of this cylindrical bead, and fluted beveled edge of the door is to form a center post around which the door may turn, and preserve a tight joint, and at the same time allow the door being opened to its full capacity for the ingress and egress of the articles or parties passing through it.

What I claim is—

The combination of the two independent spindles, having right and left graduated slots  $e, e$ , in their sides, and against the stops of which the pins  $f^2$ , passing through barrel of the hinge acts to operate alternately either of the springs attached to the spindles as the door is opened outward or inward with the barrel of the hinge, having flanges at opposite sides of the barrel, substantially as hereinbefore set forth.

THEODORE F. ENGELBRECHT.

Witnesses present:

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