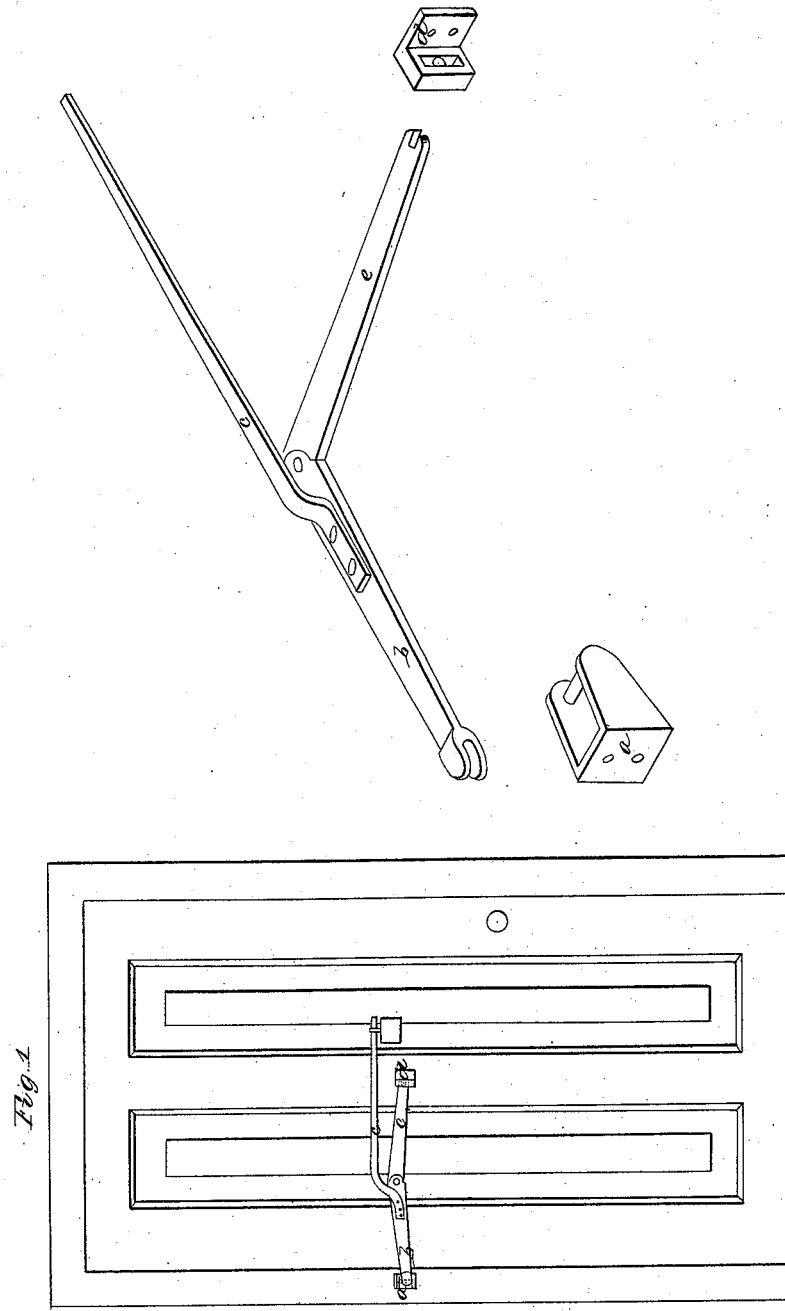


*D. Ball,*  
*Door Spring.*

*N<sup>o</sup> 4,947.*

*Patented Feb. 1, 1847.*



# UNITED STATES PATENT OFFICE.

DANIEL BALL, OF ALBANY, NEW YORK.

## APPARATUS FOR CLOSING DOORS.

Specification of Letters Patent No. 4,947, dated February 1, 1847.

*To all whom it may concern:*

Be it known that I, DANIEL BALL, of Albany, in the county of Albany and State of New York have invented a new and  
5 Improved Apparatus for Closing Doors, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the manner of making,  
10 constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of the apparatus attached to the door.

15 The nature of my improvement consists in applying the compound lever or knee-joint to doors so as to close them by a weight, without the interposition of a spring or chain, which are so liable to be deranged.

20 The construction is as follows: A small abutment piece (*a*) of cast iron or other suitable material is affixed to the face of the door casing on the same side with the hinges and a little behind their line, as is clearly  
25 shown in the drawing; this abutment has two projections on it one above the other with a round pin extending from one to the other that serves as a fulcrum to one end of the lever (*b*) which is forked so as to embrace the pin and turn on it as the door  
30 moves on its hinges. The lever (*b*) meets the other lever (*e*) with a rule joint at its junction with the arm (*c*) (lever (*b*)

being only half the length of lever (*e*) and arm *c* combined) and they are so 35 constructed as to always retain this center joint above the line of the two end ones, the lever (*e*) abuts against a small piece (*d*) that is secured to the door and forms the fulcrum joint of lever (*e*) and allows it a 40 vertical motion, as is clearly demonstrated in the drawing. The lever (*e*) extends beyond the center joint and a little above it nearly out as far as the jamb of the door and has there a weight (*e*) suspended on it. 45 By this arrangement it will be perceived that as the door is opened the compound lever is bent up and the weight raised and that in descending it closes the door. It is obvious that this same lever can be at- 50 tached above a door and be made to act on a rack and segment wheel, but I should deem that only a modification of my invention.

What I claim as my invention, and desire 55 to secure by Letters Patent, is—

The combination of the compound lever and weight with a door for closing the same, substantially in the manner and for the purpose set forth, without interposing a chain 60 or other flexible fixture.

DANIEL BALL.

In presence of—

R. J. HILTON,  
HOOPER C. VAN VORST.