

UNITED STATES PATENT OFFICE.

A. S. BLAKE, OF WATERBURY, CONNECTICUT.

DOOR-SPRING.

Specification of Letters Patent No. 23,819, dated May 3, 1859.

To all whom it may concern:

Be it known that I, A. S. BLAKE, of Waterbury, in the county of New Haven and State of Connecticut, have invented a
5 new and Improved 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 annexed drawings, making a part of this specification, in which—

10 Figure 1, is a side view of my invention applied to a door in a closed state. Fig. 2, a plan or top view of ditto.

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

15 To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, B, represent two bars which are connected by a joint *a*. These bars may be of
20 any necessary dimensions according to the size of the door to which the spring may be applied. The bar A, is attached at its outer end to the lintel *b*, of the door frame and by means of a joint *c*, so that said bar may
25 swing out freely from said lintel and the outer end of the bar B, is attached by a screw pin *d*, to the upper part of the door C, as shown clearly in Fig. 2, the end of bar B, being allowed to work freely on its pin *d*.

30 To the bar B, a spring D, is attached near the pin *d*. This spring may be composed of a single piece of steel or several leaves, as shown in Fig. 2. The outer end of this spring is connected by links *e, e*, to the bar
35 A, near the joint *a*.

The bars A, B, are attached respectively to the lintel and door, as shown in both drawings, and it will be seen that as the door is opened and closed the bars A, B, will also
40 open and close precisely similar to a toggle, and it will also be seen that the spring D, will be acted upon by the toggle as the door is opened, the spring having the greatest

power as the door is closed, its power being overcome as the door is opened by the gradu- 45 ally increasing leverage of the toggle. This feature of the toggle in connection with the relative position of the spring D, therewith reduces the power of the spring so that the latter will not act with great force on the 50 door when it is opened sufficiently wide to allow persons to pass through, the spring merely acting sufficiently to close the door, but, if the door be fully opened, it will be retained in such position, until moved a cer- 55 tain distance by an extraneous force, in order to allow the spring to act on the toggle, as the spring exerts no power against the door, when the latter is fully opened. Thus it will be seen that by this very simple de- 60 vice a progressive power spring is obtained, the spring increasing in power as the door closes and having its maximum strength when the door is closed thereby insuring the catching of the door as it closes and also 65 preventing the door being casually opened or from being swung to and fro by the draught when in a closed state.

The within described invention is extremely simple and has no parts that are 70 liable to get out of repair. It may be manufactured at a trifling cost and possesses all the advantages of the more complicated door springs that are designed to operate in a similar manner. 75

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

The arrangement and combination of the spring D, links (*e*) and arms A, B, as and 80 for the purpose herein shown and described.

A. S. BLAKE.

Witnesses:

NELSON J. WELTON,
L. SANFORD DAVIES.