

W. B. Barnard,

Door Spring.

N^o 7,255.

Patented Apr. 9, 1850.

Fig: 2.

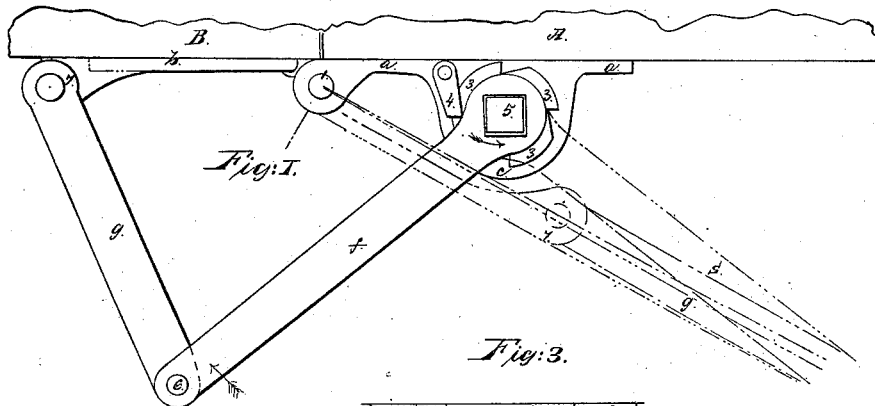
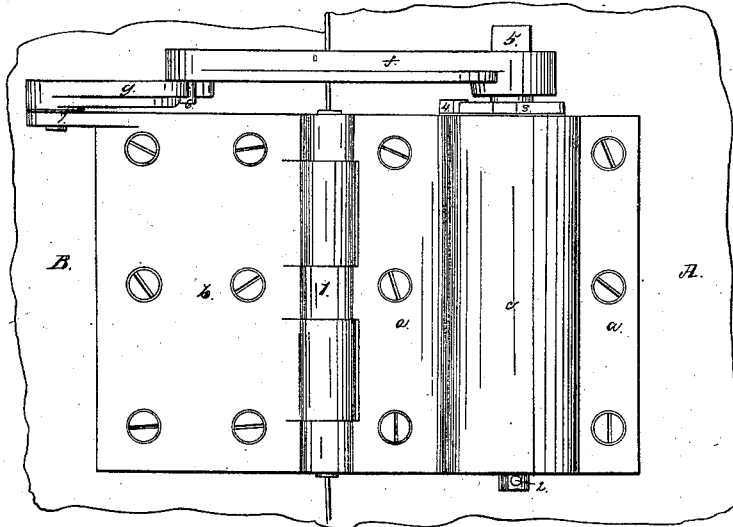
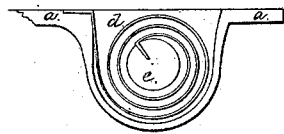


Fig: 3.



UNITED STATES PATENT OFFICE.

WILLIAM B. BARNARD, OF BRISTOL, CONNECTICUT.

IMPROVED ARRANGEMENT OF DOOR SPRINGS AND LEVERS.

Specification forming part of Letters Patent No. 7,255, dated April 9, 1850.

To all whom it may concern:

Be it known that I, WILLIAM B. BARNARD, manufacturer, of Bristol, Hartford county, State of Connecticut, have invented, made, and applied to use certain new and useful Improvements in the Construction of Gate and Door Hinges, such improvements consisting in applying parts to the hinge by which the gate or door shall be either kept shut or kept open, in a manner for which I seek Letters Patent of the United States; and I do hereby declare that the construction, operation, and effects of the said improvements are fully and substantially set forth and shown in the following description, and in the drawings annexed to and making part of this specification thereof, wherein—

Figure 1 is a plan of a gate or door shown by full lines as shut and by dotted lines as in the positions the parts take when the gate or door is open and required to remain so. Fig. 2 is an elevation of the same parts. In these a portion of the gate or door and post are shown as broken off. Fig. 3 is separately referred to, and the like letters and numbers as marks of reference apply to the same parts in all the figures, as follows:

A is the post or other support, on which the gate or door B is to be attached.

a is the standing part of the hinge, secured to the post A by screws or other usual means, and connected by a joint 1 to the moving part b on the door B. A barrel c is made solid with the standing part a, to inclose a spiral or volute spring d, the outer end of which lies under and is held in place by one portion of the standing part a. The inner end, as shown in the sectional plan, Fig. 3, enters and may be secured in a groove in the axis or arbor e, the lower end of which has a pin 2 through it. The upper end is fitted with a ratchet 3, the teeth of which take the point of a keeper-pawl 4. Above the ratchet the arbor e is fitted, as a square 5, to take an eye in the first elbow-piece f. The outer end of this has a pin 6, which takes a fork in the second elbow-piece g, the other end of which is jointed at 7 to the moving part b of the hinge on the gate or door. When thus constructed and attached for use, the axis e is to be turned by the square 5 in the direction of the arrows to contract the spring just so

much as is needful to give the required action. The pawl 4 then holds it by the ratchet 3, and the joint-piece f is put in place and connected by the pin 6 to the joint-piece g, as shown by the full lines in Fig. 1. The pawl 4 is then to be turned back out of the way, and in this position the expansive force of the spring d, acting through the joint-pieces f and g, keeps the gate or door shut by forcing the piece f in the direction of the arrow on its outer end, and will constantly operate to shut the gate or door unless that is turned back into the position shown by dotted lines in Fig. 1, in which the center of the joint 7 is shown as past the line of centers between the pin 6 and hinge-joint 1. The effect of the spring operating on the other side of the line of centers in these positions of the parts, the gate or door B will remain open until some extraneous force, moving the door to shut it, places the pin 7 the other side of the line of centers, when the spring will again shut the gate or door and keep it shut until opened by any usual means.

It is well known that springs have been used conjointly with various mechanical means for keeping gates or doors shut; but I do not know of any such means that are arranged and act to keep a gate or door either open or shut at pleasure by a spiral spring acting in one part of the hinge as in this invention, in which no one of the parts is specifically new, and therefore no one part is claimed as new by me; but

What I do claim as new and of my own invention, and desire to secure by Letters Patent of the United States, is—

Attaching the spring d and rod f to the jamb of the door or standing part of the hinge, when combined with a swinging rod attached to the door or swinging part of the hinge, all the parts being arranged substantially as described, whereby the spring tends to close the door until opened to its fullest extent and then acts to hold the door open.

In witness whereof I have hereunto signed my name at Bristol, aforesaid, this 1st day of February in the year 1850.

WM. B. BARNARD.

Witnesses:

J. A. WELLS,
HENRY GRIDLEY.