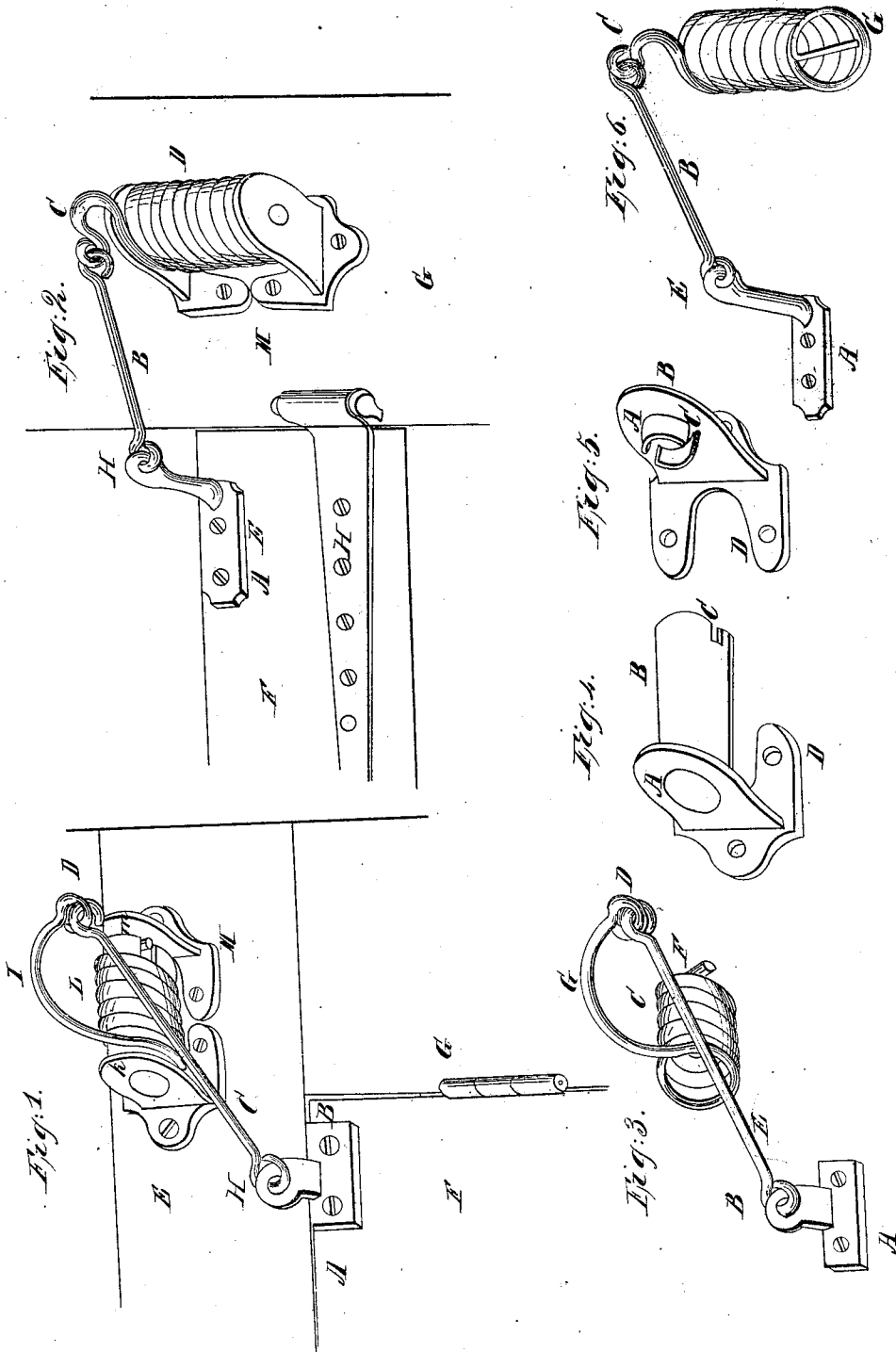


F. Kelsey,

Door Spring.

Patented June 27, 1848.

N^o 5654.



UNITED STATES PATENT OFFICE.

FRANKLIN KELLSEY, OF MIDDLETOWN, CONNECTICUT.

DOOR-SPRING.

Specification of Letters Patent No. 5,654, dated June 27, 1848.

To all whom it may concern:

Be it known that I, FRANKLIN KELLSEY, of Middletown, county of Middletown, and State of Connecticut, have invented a new and Improved Mode of Making Door and Gate Springs; and I do hereby declare that the following is a full and exact description, the annexed drawings forming a part of this specification.

The nature of my invention consists in the construction of a frame or barrel whereby I am enabled to apply a spiral spring regulated by a jointed lever and thereby obtain an equal pressure upon the door or gate as also to turn the dead point of the lever applying the power of the spring to keep the door or gate open as well as shut.

To enable others skilled in the art to make use of my invention I will proceed to describe its construction and operation.

I construct my frame or spring barrel in two parts with flanges at each end of the barrel as also transverse flanges attached to the above flanges in order to fasten the same to the door or gate post, see drawing Figures 4 and 5. In putting the two parts together the projection A, C, Fig. 5, slides into the end of the barrel B, C, Fig. 4, and at this joint of the barrel slots C, C are cut making an aperture across the joint of the barrel to hold the spring from turning when applied to the same, a cross bar being made on the spring for that purpose.

When the above two parts are put together, A, B, will represent the head flanges of the barrel, and D, D, the transverse flanges. There are two kinds of springs with their appendages that are applied to this the above spring barrel. One kind, see Fig. 3, when put on to the barrel and fastened to the door and door-post or casing will represent Fig. 1, a door spring calculated only to operate on the top of a door. The other kind, see Fig. 6, when put together with the barrel, will represent Fig. 2, or side application to be used either for gates or doors.

In describing the spring Fig. 3 to be used at the top of a door as Fig. 1 a coil of spring is made, C, with a crossbar at one end of the coil F with a crooked lever at the other end G, with an eye turned on the end of the lever D into which an eye of one end of a shackle bar E is fastened in order to communicate the power of the spring toward the door and

this effected by turning a transverse eye at the other end of the shackle bar into the eye B calculated to be fastened to the door by the transverse flange A.

In order to understand the operation of the above spring as applied to a door, let F, G, Fig. 1, represent the corner and hinge of a door with the eye H, fastened to the top of the Door A, B, with the spring and frame fastened on the door casing E. In opening the door the shackle bar C will press upward the end of the spring-lever D causing the coil of the spring L on the barrel to wind up until the shackle bar becomes perpendicular with the eye of the spring-lever at which time the door will be opened about a quarter circle as also a dead point of the power of the spring will be obtained, press the door past the dead point and the recoil of the spring will press the door around to the wall, again shut the door and the same operation inversely takes place the power of the spring acting to shut the door after passing the dead point.

In opening and shutting doors as above a half turn of the shackle-bar is acquired, which would tend to twist it off, this I remedy by making, as above, the eyes on the shackle bar transversely, the eye on the end of the spring lever perpendicularly and the eye attached to the door horizontally and thereby obtain a durable fixture.

In describing the spring Fig. 6 to be used at the side of a door or gate, let D represent the coil of spring, G the crossbar, C the spring lever with horizontal eye and E also with a horizontally working eye with right angle or heel flange A to fasten the same to the door or gate these the above eyes connected by the shackle bar B with eyes made to compare alike at each end C, E, comprise the spring and its necessary appendages to be operated by its being placed on the barrel as at D, Fig. 2.

In order to understand the operation of this side spring let F, H, represent the corner and hinge of a gate or door; G, the gate or door post; C, D, M, the spring and barrel attached to the post; H, A, E, the right angle or heel flanged eye attached to the gate or door and B the shackle bar connecting the power of the spring with the gate or door as at H, C. In opening this gate or door the right angle eye H with the shackle-bar B forms a jointed lever which will equalize the

power of the spring; the power of the joint-
ed lever being in reverse ratio as the power
of the spring, the door or gate will pass its
dead point when the shackle-bar C, B, H,
5 is in line with the hinge and produce a similar
effect in holding the door or gate open
or shut as is produced in the operation of
the top spring Fig. 1.

10 Either of the above springs fitted up as
above may be applied to regulate the power
of wind mills in similar manner as applied
to gates or doors; the fans of the windmill
to be hung on hinges same as a door.

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

15 The mode in which I make my frames or
spring barrels and attach the springs to the
same together with their application to the
shutting and holding open of doors, gates,
window-shutters, and other similar purposes. 20

Dated at Middletown the 11th day of
September, A. D. 1847.

FRANKLIN KELLSEY.

In presence of—

JONATHAN BARNES,
CURTISS BACON.