

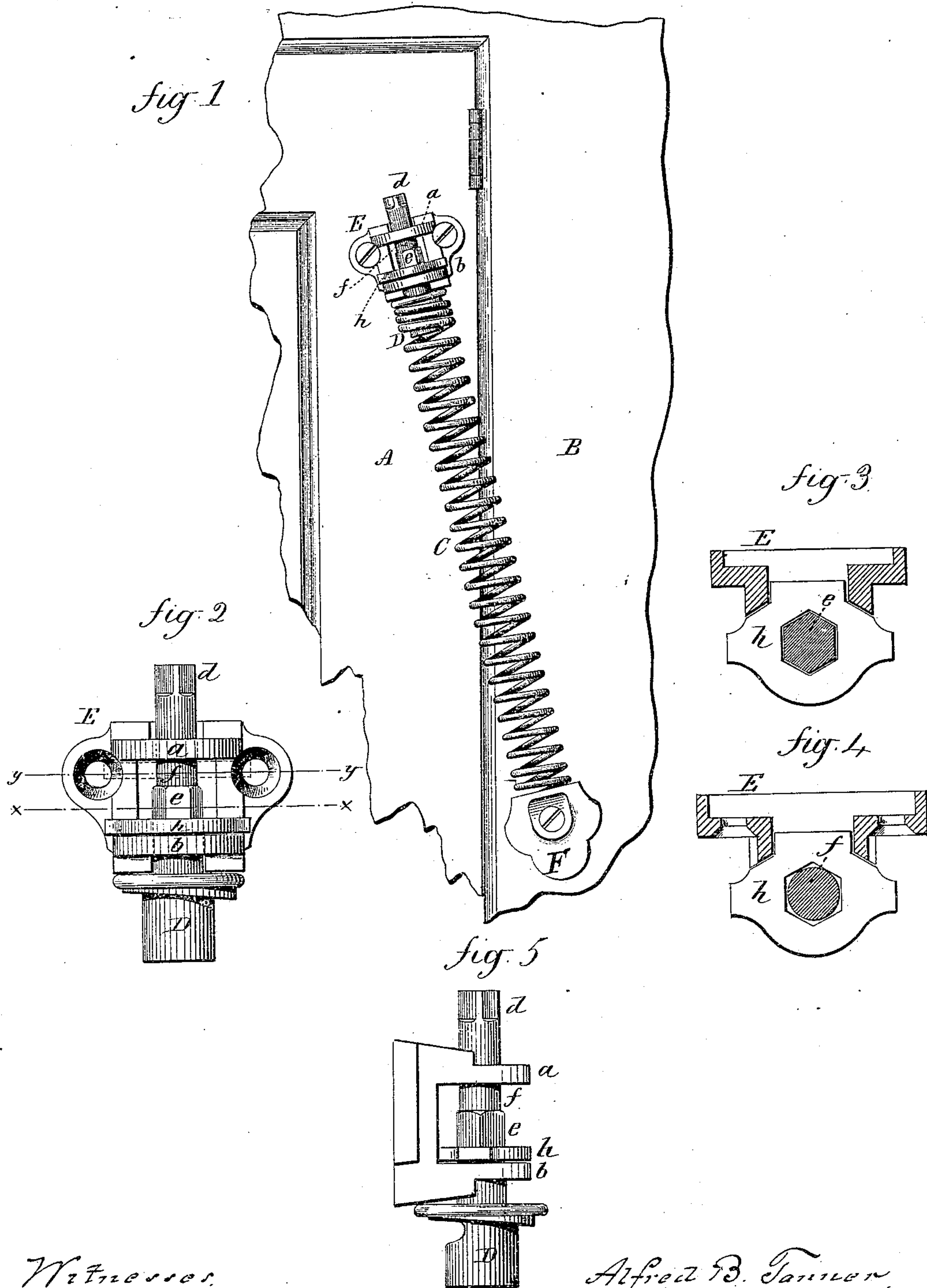
(Model.)

A. B. TANNER.

DOOR SPRING.

No. 252,541.

Patented Jan. 17, 1882.



Witnesses,  
J. H. Shumway  
Jas. C. Earle

Alfred B. Tanner  
Inventor  
By atty.  
Jas. C. Earle



# UNITED STATES PATENT OFFICE.

ALFRED B. TANNER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT  
& CO., OF SAME PLACE.

## DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 252,541, dated January 17, 1882.

Application filed October 31, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, ALFRED B. TANNER, of New Haven, in the county of New Haven and State of Connecticut, have invented a new  
5 Improvement in Door-Springs; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same,  
10 and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of the spring as applied to the door; Fig. 2, a front view of the adjustable connection enlarged; Fig. 3, a trans-  
15 verse section on line *xx* of Fig. 2; Fig. 4, a transverse section on line *yy* of the same figure; Fig. 5, a side view.

This invention relates to an improvement in that class of springs for doors which consist of  
20 a spiral wire spring attached by one end to the jamb and by the other end to the door, so that as the door is opened the spring is coiled, and the reaction of the spring serves to close the door when free, the object of the invention being a device by which the tension or force of  
25 the spring may be readily adjusted—that is, to make it greater or less—and also to enable the force of the spring to be applied after the ends have been attached to the door and jamb;  
30 and the invention consists in the construction, as hereinafter described, and particularly recited in the claim.

A represents the stile of the door, and B the jamb. C is the spring, which is made  
35 from wire coiled in a helical or spiral form, one end made fast to an attaching-piece, D, which, as here represented, is secured to the jamb in the usual manner, the spring standing in an inclined position, so that while one end  
40 lies upon the jamb the other extends to the door. The upper end of the spring is made fast to a spindle, D. This spindle extends up through a bracket, E, fitted to be secured to the door. The bearings *a b* in the bracket for  
45 the spindle are arranged one above the other, so as to leave a space between them, as seen in Figs. 2 and 5. The upper end, *d*, of the spindle is made square or polygonal, so that a wrench may be readily applied to twist the  
50 spring. That part of the spindle between the

two bearings *b a* is made, one portion, *e*, polygonal, and the other portion, *f*, cylindrical, preferably the cylindrical part above the polygonal. Those parts are shown respectively  
in section, Figs. 3 and 4. In the space between the bearings *a b* a plate, *h*, is arranged,  
55 having an opening through it corresponding to the polygonal shape of the spindle, as seen in Fig. 3, and so as to bear upon the bracket at the back, or elsewhere, whereby the said  
60 plate is prevented from turning. The cylindrical part *f* is no greater in diameter than the smallest diameter of the polygonal part; hence, if the plate *h* be upon the polygonal  
part, as in Fig. 3, the spindle cannot turn, 65 because the plate *h* will prevent it; but if the plate *h* be moved upon the cylindrical part, as in broken lines, Fig. 2, and as shown in Fig. 4, then the spindle is free to be turned.

To apply the spring the plate *h* is moved up  
70 upon the cylindrical part *f* and the bracket E secured to the door, the spring during such operation being free, so that no difficulty is experienced in attaching the bracket; but  
75 when attached the plate F is still on the cylindrical part. The wrench or similar instrument is applied to the upper end, *d*, of the spindle, and the spring is twisted until the required  
tension is attained; then the plate *h* is moved  
80 down upon the polygonal part *e*, so as to engage that part with the bracket and prevent the return of the previously twisted spring. Then the wrench may be removed. If, at any  
time, it is desirable to increase or reduce the  
85 force of the spring, apply the wrench, move the plate *h* from the polygonal part *e* to the  
cylindrical part, then make the adjustment and return the plate to hold the spring when  
90 so adjusted; or if it be desired for a time to entirely remove the power of the spring from the  
door, simply raise the plate *h* upon the cylindrical part *f* of the spindle and the door is  
entirely free from the power of the spring.

I am aware that door-springs have been constructed with a polygonal portion, on which  
95 a locking-plate was arranged so as to be moved on said polygonal portion to engage or disengage the socket, and so that when engaged with the socket the spring would be held, or  
when disengaged the spring might be turned 100

for adjustment. I do not, therefore, wish to be understood as making any claim to such well-known construction.

I claim—

- 5 The combination of the spiral spring, made fast at one end, with the spindle D, fixed at its opposite end and supported by a bracket, the said spindle constructed with the polygonal and cylindrical portions *e f*, and the lock-

ing-plate *h*, arranged to take its bearing upon the bracket and over the said polygonal or cylindrical parts of the spindle, substantially as and for the purpose described.

ALFRED B. TANNER.

Witnesses:

F. W. BROCKSIEPER,  
JOHN E. EARLE.