G. E. SUTPHEN.

DOOR-SPRING.

No. 187,738. Patented Feb. 27, 1877.

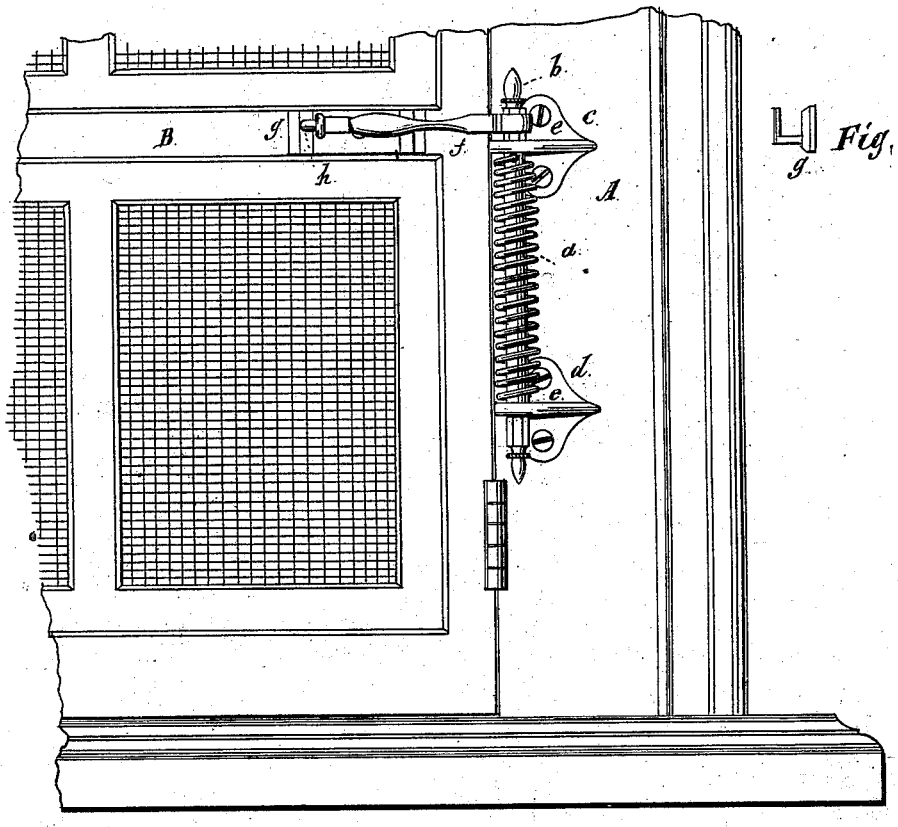


Fig. 1.

Fig. 7.

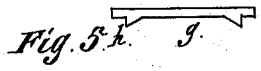
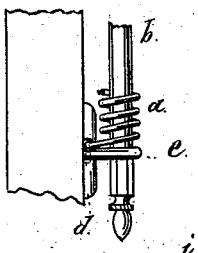


Fig. 5

Fig. 6.

Fig. 2.



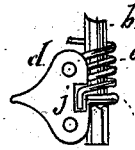


Fig. 3.

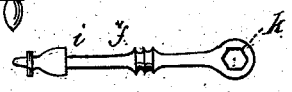


Fig. 4.

Witnesses:

C. W. Bond

H. F. Burnett

Inventor:

By George E. Sutphen

Mason & Bond Attys

UNITED STATES PATENT OFFICE.

GEORGE E. SUTPHEN, OF AURORA, ILLINOIS.

IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. **187,738**, dated February 27, 1877; application filed June 19, 1876.

To all whom it may concern:

Be it known that I, GEORGE E. SUTPHEN, of Aurora, Kane county, State of Illinois, have invented new and useful Improvements in Door-Springs, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation, showing the device attached to a door; Figs. 2, 3, 4, 5, and 6, details, Fig. 4 being a top view of the plate *g*, and Fig. 5 a top view of the lever *f*; Fig. 7, a modification.

This invention relates to door-springs; and consists in a plate provided with a projection or catch, and a lever or rod having a projection or catch, combined with a spring, as will be hereinafter more fully described.

In the drawings, A represents the door-frame, and B the door with my device applied thereto. *a* is a coil-spring. *b* is a rod, which passes through the spring, and its ends extend beyond the ends of the spring. *c d* are two brackets, each provided with an ear, *e*, through which the rod *b* passes, and in which it can rotate. Both ends of the rod *b* are made many-sided instead of round—as represented, these ends are six-sided—and the upper end extends above the bracket *c*, and the lower end below the bracket *d*. One of the brackets, *d*, as shown, is provided upon the inside with a recess, *j*, to receive one end of the coil-spring *a*. The other end of this spring is permanently secured to the rod *b*. *f* is a rod or lever, one end of which has a many sided opening, *j*, corresponding to the form of the end of the rod *b*. *g* is a plate, secured to the door. *h* is a catch or projection on the plate *g*. *i* is a corresponding projection on, or notch in, the lever *f*, to engage with the catch *h*.

In use, the brackets are to be secured to the door-frame, thereby holding the spring *a* and rod *b* in place, the spring being between the two brackets. In this position the spring is neutral. By means of a socket-wrench applied to the lower end of the rod *b*, it can be turned partially around from left to right, thereby giving to the spring such tension as may be required; then the rod or lever *f* is to be applied to the upper end of the rod *b*, the opening *k* passing over the rod, as shown in Fig. 1, the opposite end of the rod *f* resting against the plate *g*. The tension of the spring will keep the door closed.

When the door is opened wide, the projection or catch *i* of the lever *f* will slide over and engage with the catch *h* upon the plate *g*, and hold the door open.

If the projection *h* or catch *i* be made beveling, the door can be closed by using a gentle force; but if they are made straight it will be necessary to lift the end of the lever for this purpose.

The door may be held open by means of a hook secured to the plate *g*, as shown in Fig. 7; but in this case it will be necessary to remove the lever *f*, and give the proper tension by turning the rod *b* from right to left, and then replace the lever. In this case the tension of the spring will hold the door open, and it will be necessary to close it by the use of force.

The tension of the spring can be adjusted at any time, as may be desired, by means of the wrench.

The spring can be used either with right or left handed doors without any change.

What I claim as new, and desire to secure by Letters Patent, is as follows:

In a door-spring, the plate *g*, provided with a projection or catch, *h*, and a lever or rod, *f*, provided with a projection or notch, *i*, in combination with the spring *a*, substantially as and for the purpose specified.

GEORGE E. SUTPHEN.

Witnesses:

R. W. GATES,

B. F. HERRINGTON.