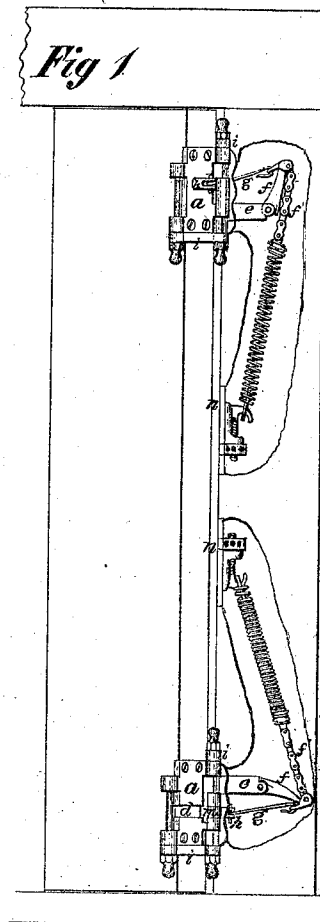
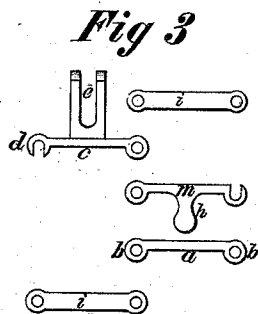
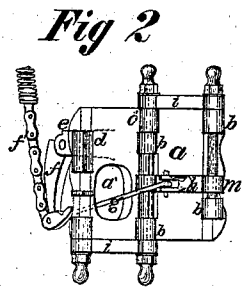


W. GILFILLAN.

Combined Door-Hinges and Springs.

No. 143,234.

Patented September 30, 1873.



E. Greenough
A. Watts

Witnesses.

Wm Gilfillan

Inventor.

by J. Greenough Atty

UNITED STATES PATENT OFFICE.

WILLIAM GILFILLAN, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN COMBINED DOOR HINGES AND SPRINGS.

Specification forming part of Letters Patent No. **143,234**, dated September 30, 1873; application filed March 3, 1873.

To all whom it may concern:

Be it known that I, WILLIAM GILFILLAN, of Syracuse, Onondaga county, New York, have invented certain Improvements in Door Hinges and Springs, of which the following is a specification:

My invention is an improvement in the construction and arrangement of the parts of a certain hinge, and a spring heretofore patented by me, and in the manner of combining the same.

The hinge and spring are shown in the drawing, in which—

Figure 1 shows a door and frame with the hinge and spring affixed thereto. Fig. 2 is a detached hinge, showing its connection with the spring, that may be brought into action in one direction only; Fig. 3, parts detached.

My double-action door-hinge consists of the following parts, and may be so coupled with the spring as to be thereby acted upon to close the door, when opened, either way, or one way only, and a spring-hinge of both modifications may be affixed to the same door, when desirable, so as to make the closing force stronger one way than the other to resist currents of air, &c.

My double-acting hinge is constructed as follows: A plate, *a*, is formed with two bosses, *b b*, projecting on each side to form the joint, as seen in the drawing. Into the spaces of these are fitted similar bosses *c'* on plate *c*. Two projecting bars, *i i'*, one above and the other below, unite the two plates together by pins that connect one end of one of said bars *i* to plate *a* at the joint on one side, and the other end to the plate *c* on the opposite side, the other bar *i'* being similarly connected, but on the reverse side. The two bosses *d* on plate *c* are slotted on one side so as to fit onto and be released from the pins affixed to plate *a*.

The peculiarity of the construction and arrangement of these parts, which distinguishes them from the double hinges heretofore made, is the placing the bars *i i'* above and below the plates, so as to have a broad, clear space between them for the attachment of the spring, and the great strength at the same time given to the joint on which the door swings.

The object of this construction is more particularly to give room for the combination of

the spring with this hinge in the compact, efficient, and cheap way which I have devised. The elements are not claimed as new, but the construction and arrangement are so.

To unite the spring to this hinge I make a hole, *a'*, through the plate *c*, and on the back of the plate next the door-frame I project two lugs, *e*, that serve as a fulcrum for the short arm *f* to turn on. This joint is made with a stop that prevents the arm from turning back farther than a horizontal line, and its end is bent upward with a shackle jointed thereto. The end of this arm is connected with a spiral spring by a chain, *f*, the other end of the spring being connected with an adjustable hook in the frame below.

The spring and its connections are not new, but the stop on arm *f*, to prevent its falling down when unhooked from plate *a*, has never before been essayed, and is very important in attaching and setting up the spring. The shackle is connected with the plate by a rod, *g*, which hooks into it, and is pinned to a lug on plate *a* opposite the opening *a'*.

Instead of attaching the rod *g* to the plate *a* I sometimes connect it with bar *m*, extending across from side to side opposite the opening *a'* in plate *c*. One end of this bar has the joint-pin of the hinge passed through it; the other is slotted so as to shut over the other pin, that when the door is opened one way this bar remains stationary, and is not drawn back with it, but, if the door is opened the other way, it is drawn back with it, which puts the spring into action.

I claim—

1. In the above-described spring-hinge, the combination and arrangement of the bars *i i'* and plates *a* and *c*, specifically as and for the purposes set forth.

2. The arm *f* connected to the plate *c* of the hinge by a rule or stop joint, as and for the purposes described.

3. The bar *m* in combination with the spring and double-acting hinge, substantially as specified.

WILLIAM GILFILLAN.

Witnesses:

J. J. GREENOUGH,
J. P. BISHOP.