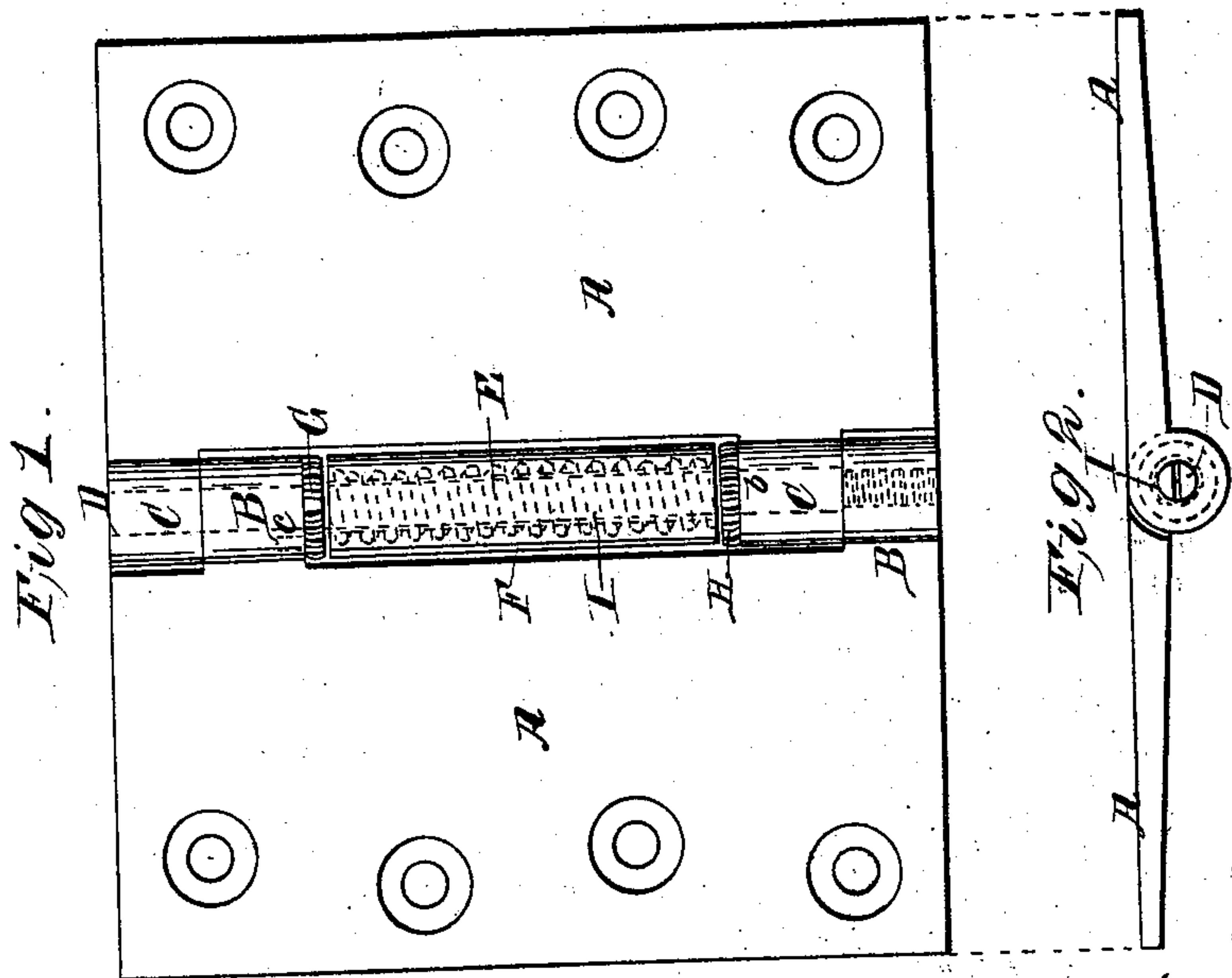
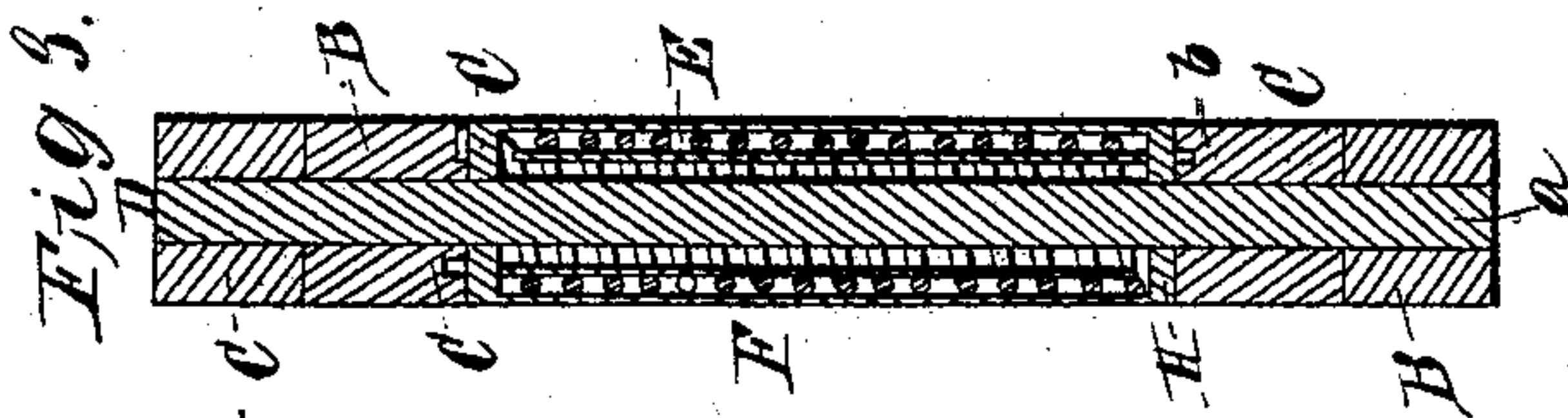


*N. Birdsell,*  
*Spring Hinge.*

*Nº 24,535.*

*Patented June 28, 1859.*



*Witnesses.*

*Gilbert C. Birdsell*  
*Chas. B. Darr*

*Inventor.*

*Nelson Birdsell*

# UNITED STATES PATENT OFFICE.

NELSON BIRDSALL, OF PORT JERVIS, NEW YORK.

## SPRING-HINGE.

Specification of Letters Patent No. 24,535, dated June 28, 1859.

*To all whom it may concern:*

Be it known that I, NELSON BIRDSALL, of Port Jervis, Orange county, State of New York, have invented a new and Improved Spring-Hinge; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, figures and letters of reference thereon making part of this specification.

Of the said drawings Figure 1 denotes a perspective view of my hinge. Fig. 2 is an end view of the same.

Similar letters of reference indicate like parts in all the drawings.

For a great variety of places it is desirable for closing entrances and for this purpose many kinds of springs and mechanical devices have been employed which were uncouth in appearance and liable to derangement.

The nature and object of my invention consists in so combining and arranging a spring with a hinge that it shall automatically close the door or entrance while at the same time it is invisible and out of the way.

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

A, A, represent the leaves of the hinge; B B are knuckles on one leaf; C C, are knuckles on the other leaf; D, is the hinge pin; E is a spiral spring which has its ends secured in the pieces G H through which the pin D passes which pieces are secured to the knuckles C B by means of the pins *b c*, which fit into holes (made in said knuckles), of which there may lie any desirable number for the purpose of adjusting the springs E and I; F is a tube which covers the hinge spring; I is a spring its inner edge being lapped by the outer and when compressed is inserted within the spring E, when it is distended as represented in the dotted lines in Figs. 1 and 2, and as the leaves of the hinge are opened the springs E and I are

compressed and when said leaves are released the combined action of the two springs will close the leaves and door to which they may be attached.

Operation: The hinge is secured to the door, gate, or other use by means of screws passing through the holes, in the ordinary manner and the spring set to the desired tension so as readily to close the entrance which is done by pressing the spring down so that the pin in one of the pieces G or H may be removed from the hole and by the application of a wrench to the milled edge the torsion of the spring is regulated. It may be found necessary to groove the periphery transversely of the pieces G and H for greater facility in adjusting the torsion of the springs as shown in the accompanying model.

It is obvious that one leaf being stationary as in most cases that as the door is opened the springs are drawn into a smaller coil and consequently the power of the springs greatly increased and as soon as the door is released it closes itself.

Having thus described my improved hinge I will state what I claim and desire to secure by Letters Patent.

I am aware of the patent of J. S. Smith dated May 19th 1857 for a spring hinge and I therefore claim no device patented to him. But

I claim—

1. The combination and arrangement of the spring E, and adjusting pieces G and H, applied to a hinge as described and specified.

2. I also claim inserting within the spiral spring E the tubular spring I as described for assisting the action of the spiral spring and preventing it from setting or getting out of plane with the other parts as set forth and specified.

NELSON BIRDSALL. [L. s.]

Witnesses:

GILBERT C. BIRDSALL,  
NELSON B. DARR.