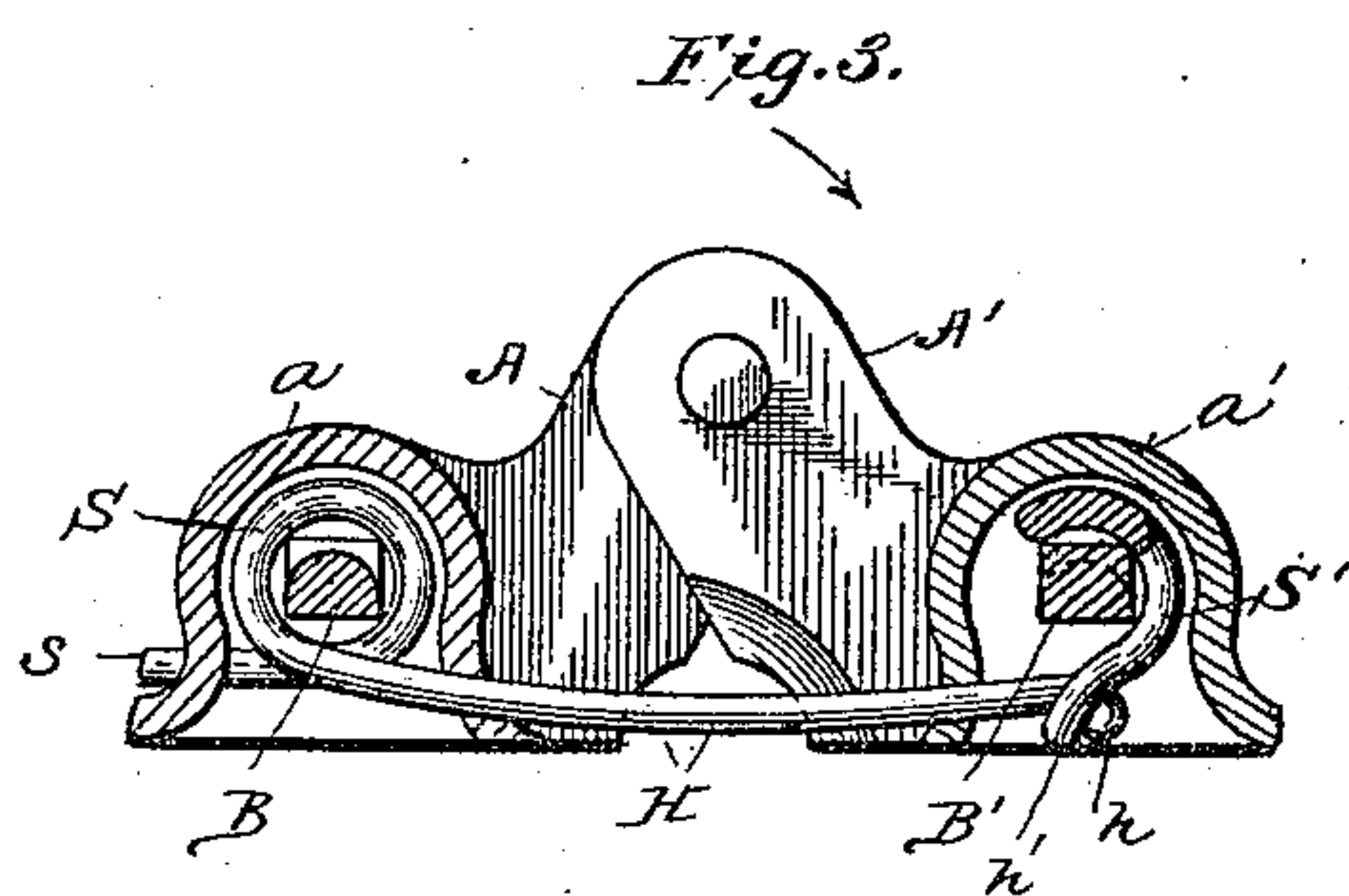
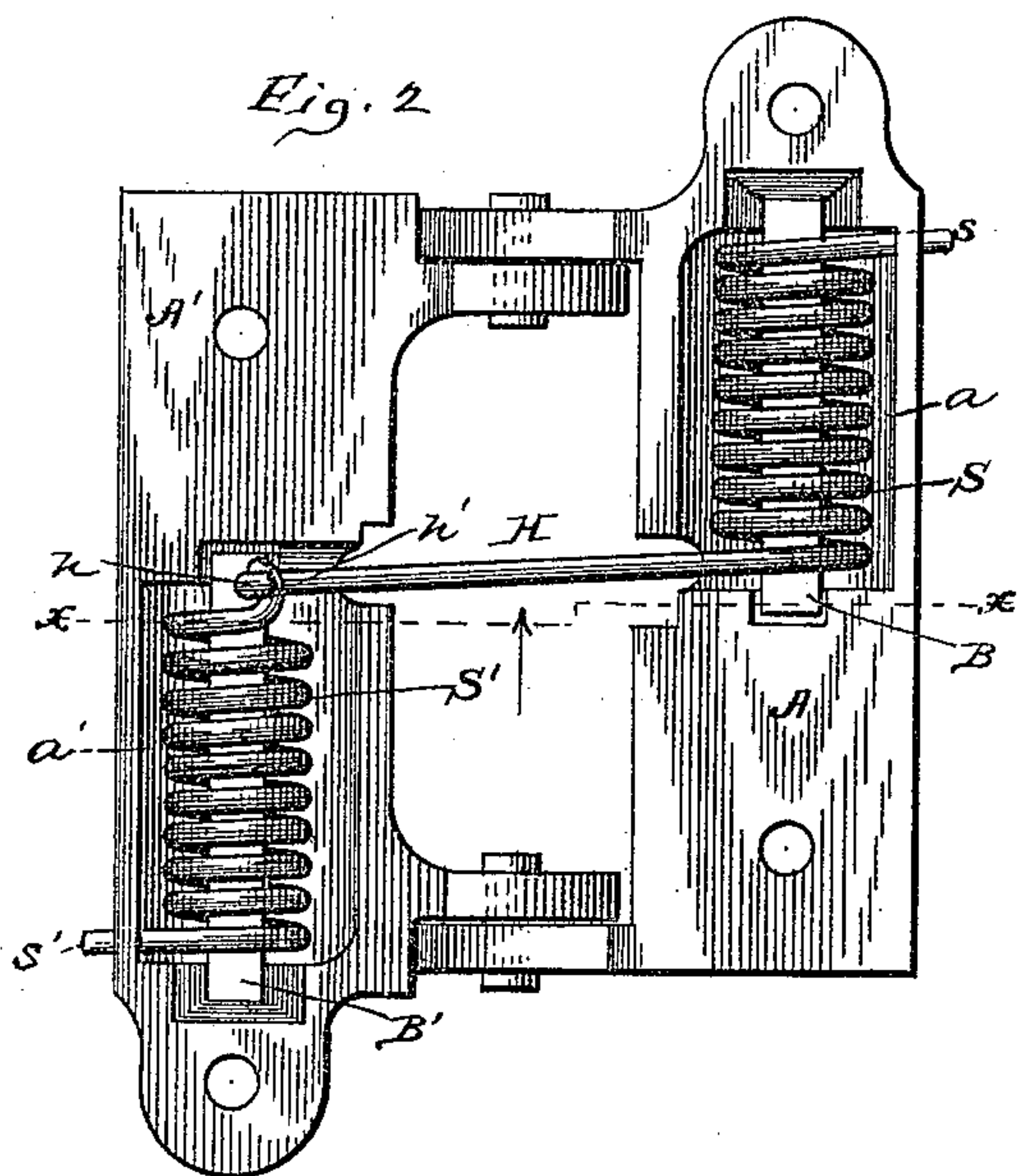
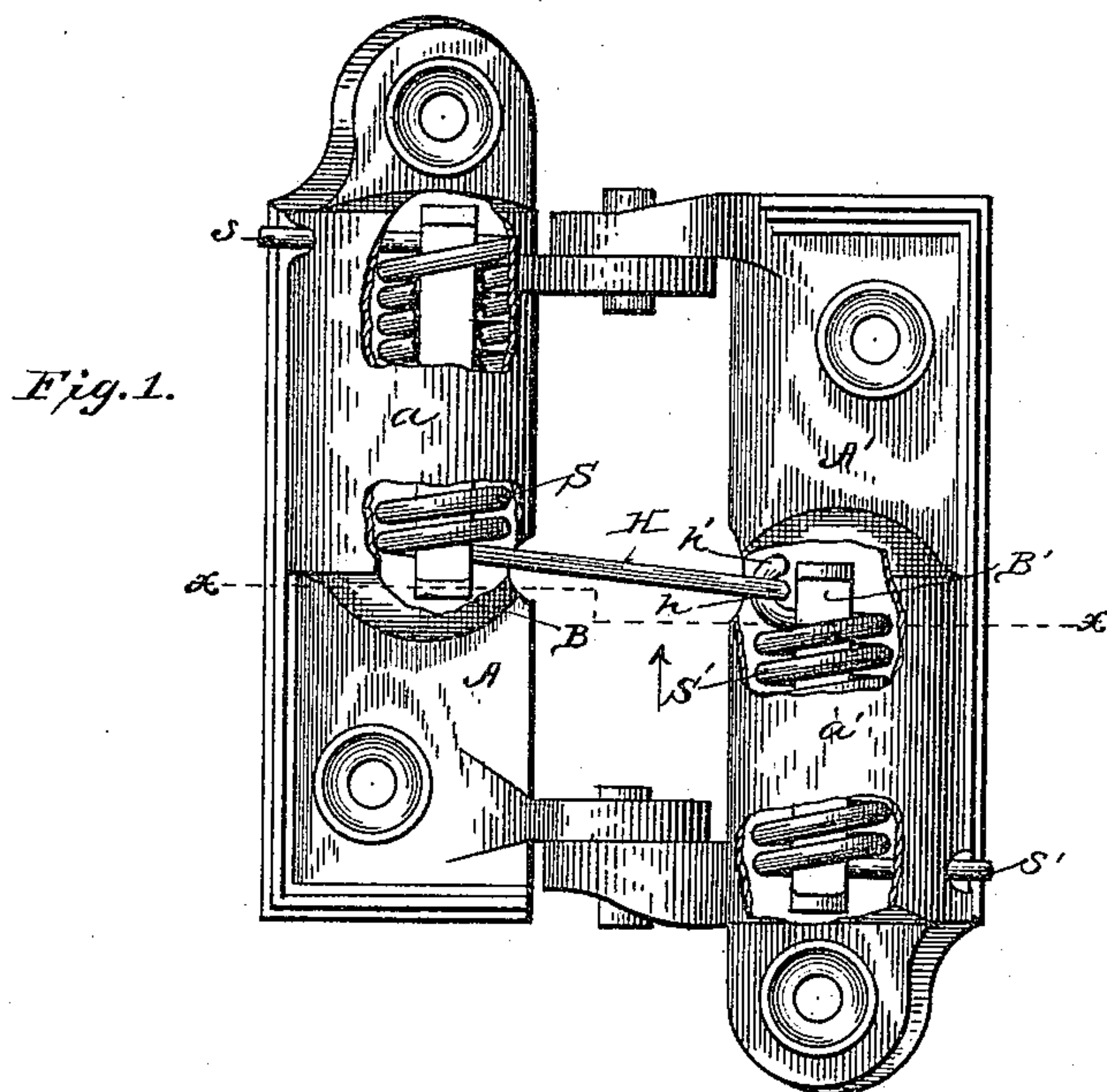


(No Model.)

M. REDLINGER.
SPRING HINGE.

No. 438,641.

Patented Oct. 21, 1890.



Witnesses:
Harry S. Rohrer,
J. M. Copenhagen.

Inventor:
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UNITED STATES PATENT OFFICE.

MICHAEL REDLINGER, OF FREEPORT, ILLINOIS, ASSIGNOR TO THE FREE-
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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 438,641, dated October 21, 1890.

Application filed February 14, 1890. Serial No. 340,442. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL REDLINGER, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Spring-Hinges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in spring-hinges of the class known as "reversing-hinges"—that is to say, hinges in which the spring tends to swing the movable leaf of the hinge in either direction from a certain point at which the action of the spring is neutral, such neutral point being commonly spoken of as the "dead-point."

The invention is described in this specification and shown in the accompanying drawings, in which—

Figure 1 is a top plan of a surface-hinge embodying my improvements, the leaves of the hinge being in a horizontal position, and portions of the hinge-plates being broken away to show the parts beneath. Fig. 2 is a bottom plan of the hinge; and Fig. 3 is a transverse section through the line $x x$ of Figs. 1 or 2, the view being in the direction indicated by the arrows in the two figures.

In these views, $A A'$ are two hinge plates or leaves, adapted to be secured to the surface of a door and its casing, said leaves being provided with terminal ears which are pivoted together in pairs to form knuckle-joints. On each of the leaves is formed a convex shell extending through about half its length, said shells being lettered $a a'$, and being so placed on the leaves as to be at diagonally-opposite corners of the hinge. In the shells $a a'$ are seated in suitable bearings two arbors $B B'$, and these arbors are encircled by coiled springs $S S'$, whose outer end coils are provided with projecting ends $s s'$, extending through the outer walls of the respective shells which inclose the springs. The coil S is also provided with an arm H , extending transversely across the hinge to a point approximately under the coil S' , and a hook h , at the end of the arm H engages a hook h' formed on the inner end coil of the spring S' . When the hinge is closed, as illustrated in the figures of the drawings, the hook h' of the

spring S' tends to move outward or away from the axis of the hinge, and the arm H acts as a link which transmits the force of the spring S' to the opposite leaf of the hinge, the force so exerted tending necessarily to hold the leaves in their closed position. At the same time the force of the spring S tends to swing the leaf A' in the direction indicated by the arrow in Fig. 3, thereby holding the leaves in their closed position. When the hinge has been opened sufficiently, however, the force of the springs is exerted to hold the hinge open in the manner common in reversing-hinges.

The hinge is operative without the cores for the springs; but as the last turn in such torsional coils is liable to become distorted or "set" in use if not supported, I prefer the use of the cores, although the shells alone hold the springs in line.

Having now described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the two leaves of a spring-hinge, of two springs mounted on said leaves, respectively in lines approximately parallel with the axis, and a link connecting the two springs and transmitting the force of each to the other, substantially as and for the purpose set forth.

2. The combination, with the leaves $A A'$, of the arbors $B B'$, mounted thereon, and the springs $S S'$, encircling said arbors, the spring S being provided with a transverse arm H , terminating in a hook h , which engages the hook h' at the end of the coil S' , substantially as and for the purpose set forth.

3. The combination, with the leaves $A A'$, provided with the shell $a a'$, of the springs $S S'$, mounted within said shells and having ends $s s'$ engaging the walls thereof, the spring S' being provided with a transverse arm H , terminating in a hook h , which engages the hook h' on the spring S' , substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MICHAEL REDLINGER.

Witnesses:

R. H. WILES,
L. M. DEVORE.