

O. M. CHESNEY.
SPRING HINGE.

APPLICATION FILED OCT. 20, 1902.

NO MODEL.

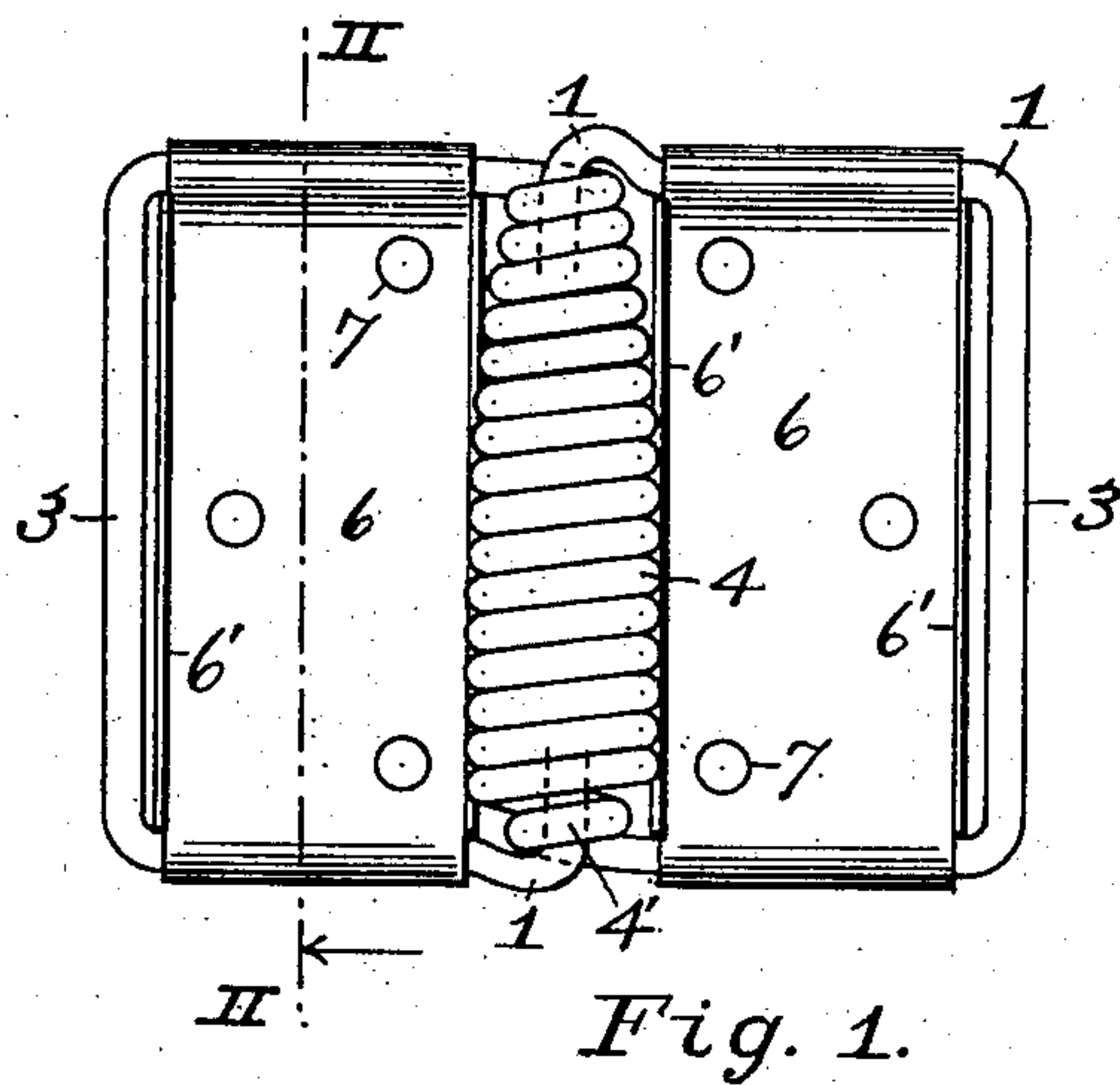


Fig. 1.

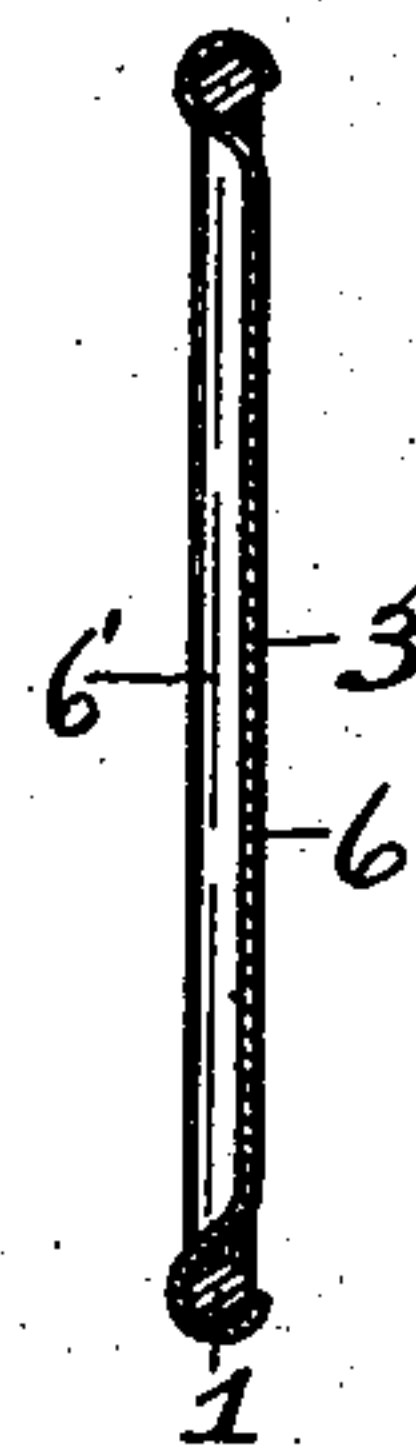


Fig. 2.

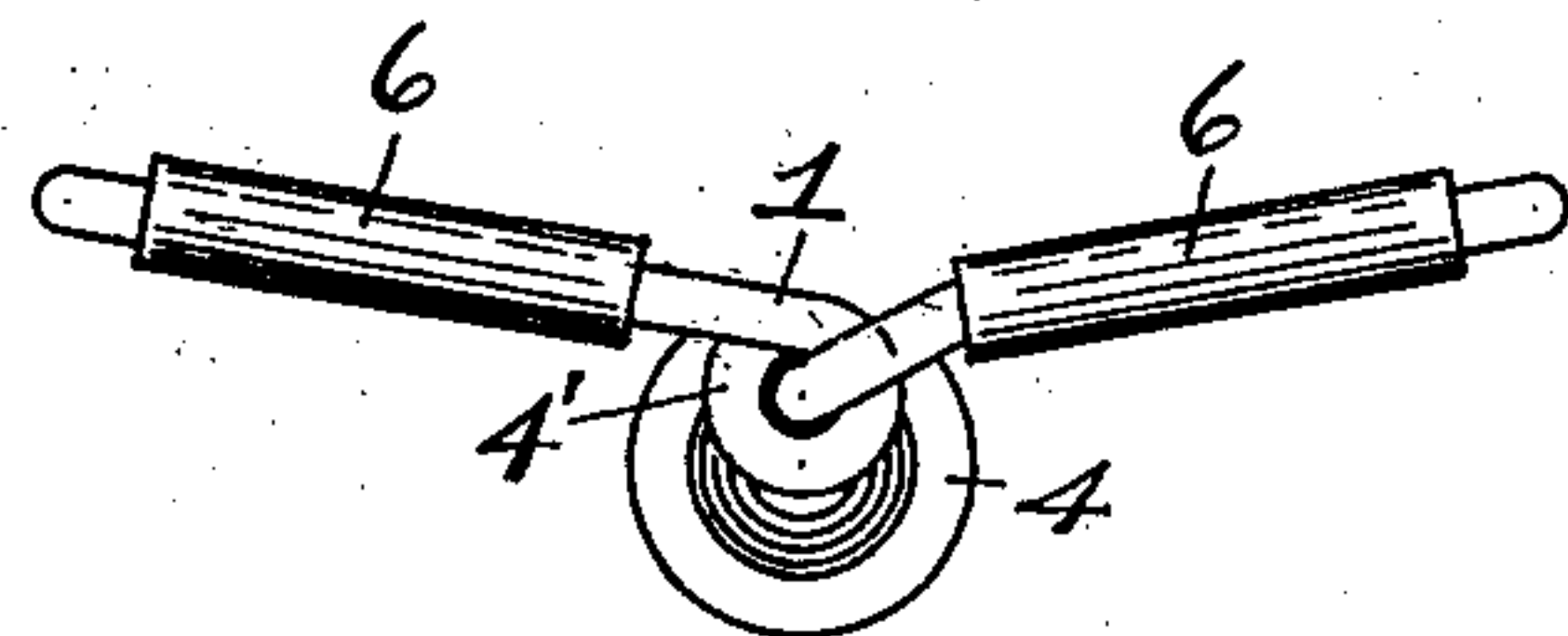


Fig. 3.



Fig. 4.

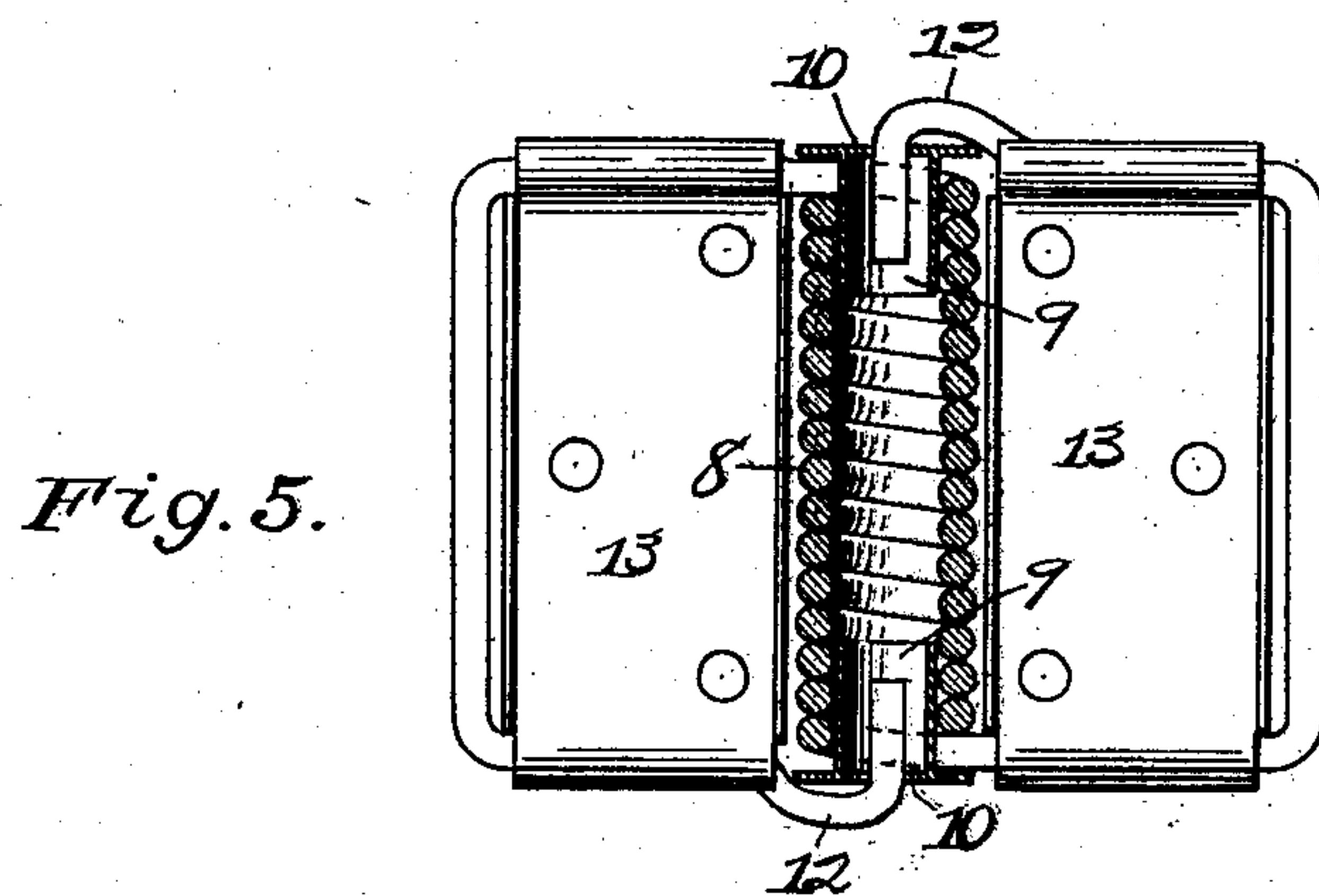


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

OLIVER M. CHESNEY, OF TOPEKA, KANSAS, ASSIGNOR OF ONE-HALF TO
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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 741,626, dated October 20, 1903.

Application filed October 20, 1902. Serial No. 128,029. (No model.)

To all whom it may concern:

Be it known that I, OLIVER M. CHESNEY, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented new and useful Improvements in Spring-Hinges, of which the following is a specification.

My invention relates to spring-hinges; and my invention consists in constructing the frame and the spring of a single piece of wire and forming the leaves of stamped metal and attaching them to the wire frame, as hereinafter described.

Referring now to the accompanying drawings, Figure 1 is an elevation of the preferred form of hinge embodying my invention. Fig. 2 is a section of one of the leaves, taken on line II II of Fig. 1. Fig. 3 is a bottom plan view of the hinge. Fig. 4 is a transverse section of one of the leaves. Fig. 5 is a partly-sectional elevation of a modified form of the invention.

Referring to Figs. 1, 2, 3, and 4, 1 designates as a whole the wire which forms the frame 3 3 and the torsion-coil 4. Said coil is formed by winding upon a mandrel the middle portion of the wire after first forming a small turn 4', having the same internal diameter as the diameter of the wire used. The upper end of the coiled portion 4 is reduced in diameter, as shown, to form an opening of about the same diameter as that of the wire itself. The lower end of the coil is abruptly reduced in diameter, thereby forming a small turn 4', which is adapted to form a bearing for the wire 1, near the lower end thereof. If it were not for this small turn 4' of the wire, the end of the wire would be free to wobble within the lower end of the coil, and the door supported by the hinge (or hinges) would sag or work loosely. The course of the wire, beginning with, *e. g.*, the lower end, is to the left, then up, then to the right, forming the frame 3 of the left-hand leaf, thence downwardly and spirally, forming the coil 4, thence to the right, then up, then to the left, forming the frame 3 of the right-hand leaf, and down into the upper or smaller end of the coil.

Each leaf 6 is a rectangular piece of sheet metal and is secured to the wire frame 3 by bending its ends around the upper and lower portions of the frame, as shown. The leaves

are provided with screw-holes 7. The longer edges of each leaf 6 are bent outwardly, forming flanges 6', which stiffen or strengthen the leaves of the hinge.

The operation of the hinge will be readily understood.

Another form in which this invention may be embodied is illustrated in Fig. 5. The construction of this hinge is precisely the same as that of my preferred form, except that the ends of the coil 8 are not reduced in diameter, and in each end of the coil is inserted a thimble 9. Each thimble 9 is provided with a rigidly-attached or integral head 10, of larger diameter than that of the thimble, so that a flange is provided, which being pressed upon the end of the coil prevents the thimble from being pushed too far into the coil. In the heads of the respective thimbles are central openings just large enough to admit or pass the respective ends of the wire 12. Thus the ends of the wire are pivoted in the heads of the thimbles 9 instead of in the ends of the coil, as in the preferred form described heretofore. 13 13 are the leaves of the hinge. These leaves are stamped out of sheet metal, and they are secured to the sides of the hinge by bending their ends around the upper and lower portions thereof. The thimbles 9 are held in the ends of the coil 8 by the rigidity or stiffness of the frame or sides of the hinge.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

A spring-hinge comprising a frame and a torsion-coil, both frame and coil being formed of a single piece of wire, said coil being formed by the middle portion of the wire, a thimble within each end of said coil, each thimble having a head provided with a central opening, the ends of the wire passing through said openings respectively, and sheet-metal leaves secured to the frame of the hinge by having their ends bent around the upper and lower portions of said frame, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

OLIVER M. CHESNEY.

Witnesses:

D. B. SIMPSON,
J. E. HAYDEN.