

L. A. YOUNG.
 SPRING CONSTRUCTION.
 APPLICATION FILED OCT. 17, 1910.

981,735.

Patented Jan. 17, 1911.

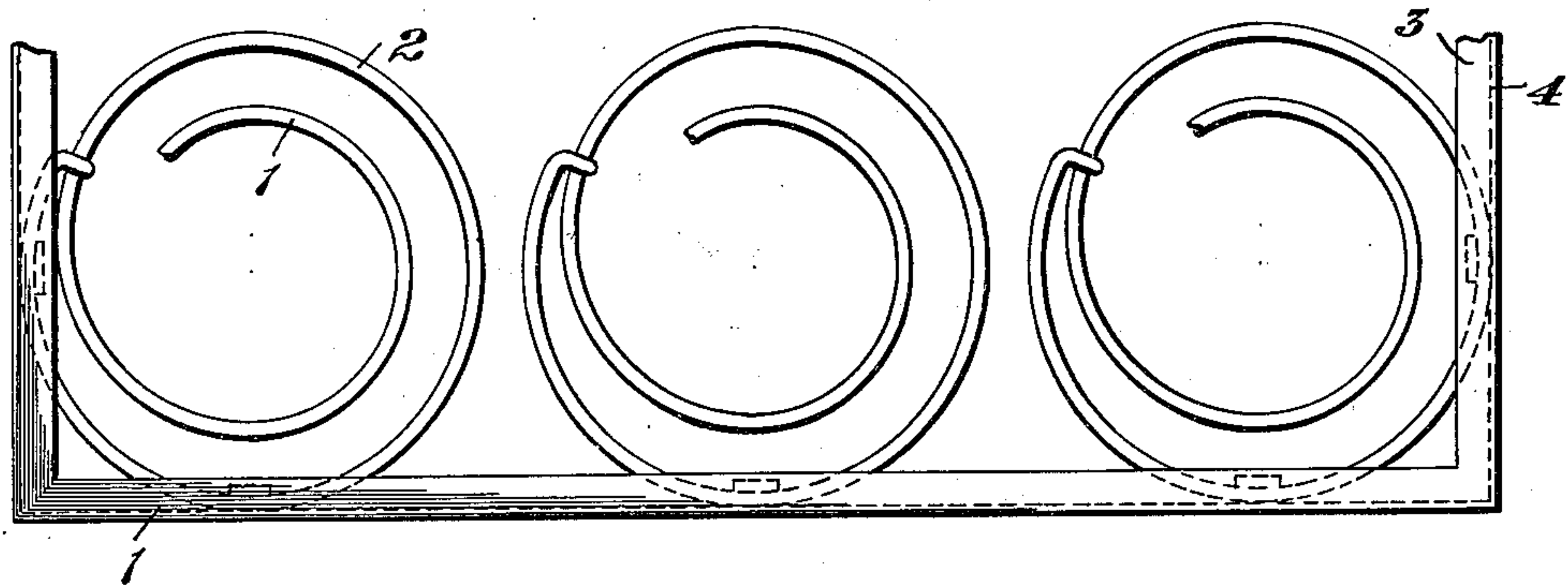


Fig. 1.

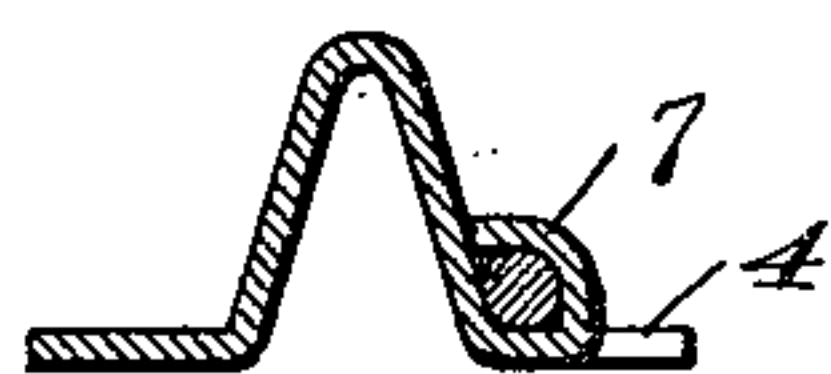


Fig. 5.

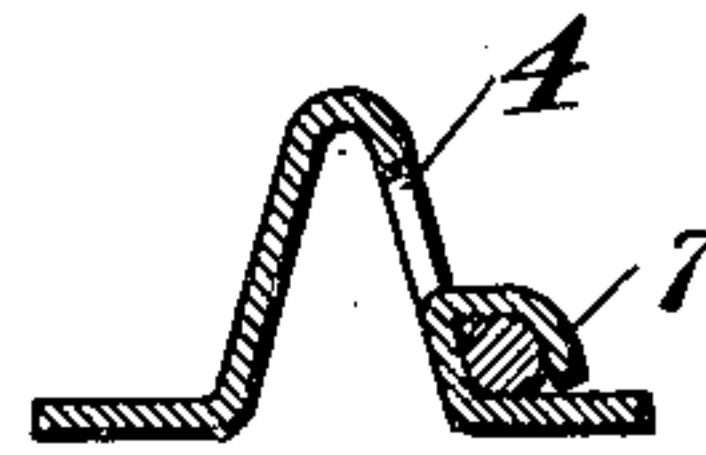


Fig. 4.

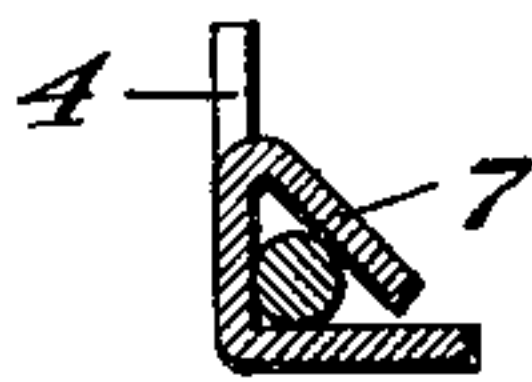


Fig. 3.

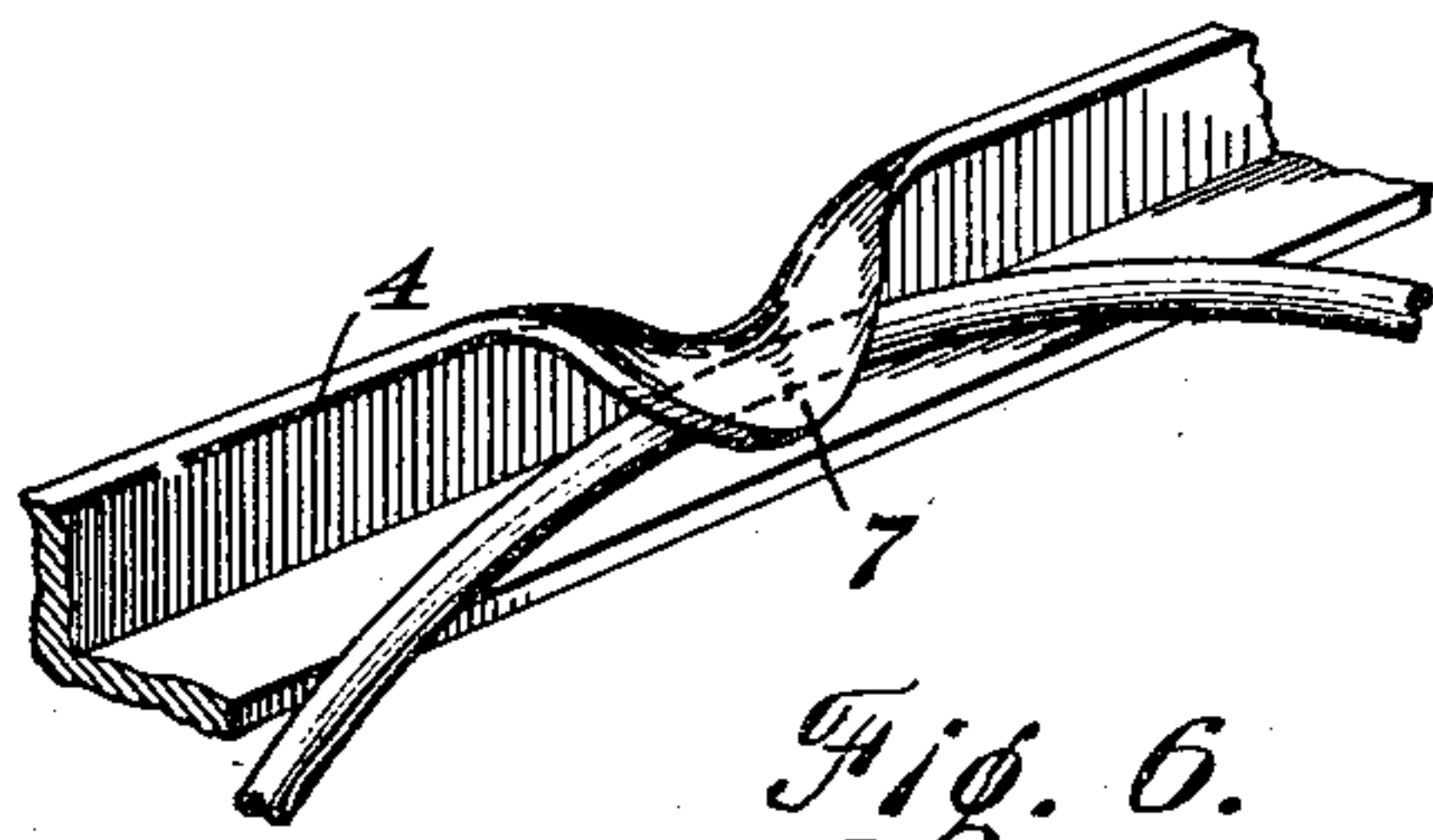


Fig. 6.

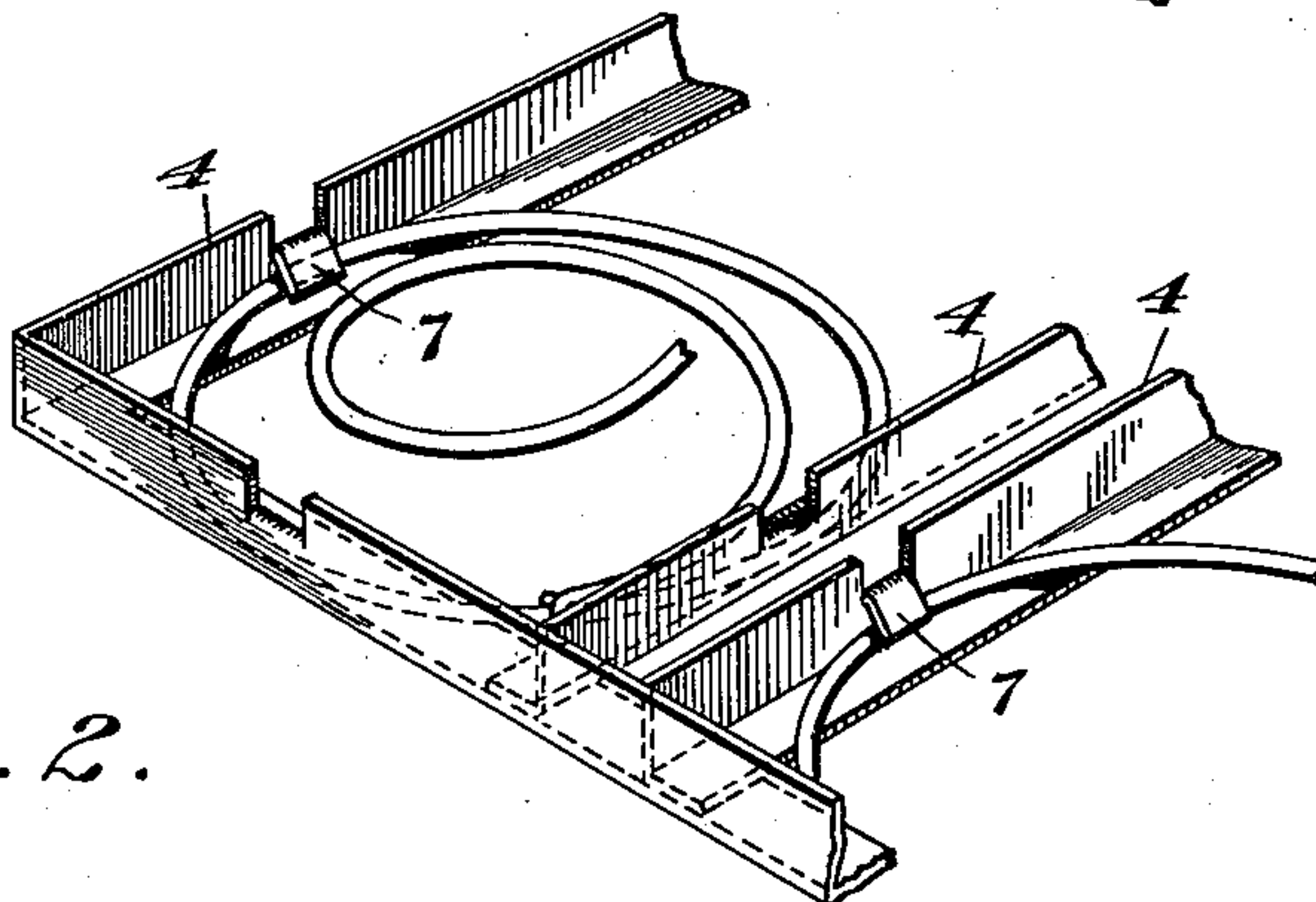


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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SPRING CONSTRUCTION.

981,735.

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To all whom it may concern:

Be it known that I, LEONARD A. YOUNG, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Spring Constructions, of which the following is a specification, reference being had therein to the accompanying drawings.

In spring seat constructions it is desirable to reduce the number of parts and to simplify the means of connecting them in order not only to cut down the cost of material but likewise that of the labor of making and assembling.

This invention relates to spring constructions in which spring members are secured to confining and supporting frames without the use of clips or other fastening means and without the necessity of previously slotting, perforating or otherwise tooling the members of the frames.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view of a portion of an upper rim frame with adjacent parts of springs, embodying the invention; Fig. 2 is a view in detail of a base frame showing method of attaching springs thereto; Fig. 3 is a view in section through one of the frame members; Figs. 4 and 5 are views in section showing different manners of attaching springs to the strips; and Fig. 6 is a view in detail of a further modification.

In spring constructions in the class above referred to, the body springs are usually upright spiral coils as indicated at 1 whose top convolutions 2 are secured in place by attachment to a rim frame 3. In the construction herein shown the latter is a metal strip or bar having a flange 4 thereon longitudinally disposed in a plane transverse to the plane of the body of the strip. As indicated in Fig. 1 where the strip is used for a rim frame the body of the strip rests on the top convolutions 2 of the springs which contact also with the longitudinal flange. The marginal portion of the latter adjacent the point of contact with each spring is bent over the spring toward the base of the strip. This forms a retaining part 7 which secures the coil firmly in place. The portion 7 is usually forced into place with a swaging

tool which usually is arranged to shear the part 7 from the body of the flange as indicated in Figs. 2, 3, 4 and 5. Otherwise it may bend over a portion of the flange, and in both instances it leaves an interrupted margin to the flange. The base frame as indicated in Fig. 2 may also be formed in the same manner as the rim frame. Obviously, the portion 7 may be made to bear tangentially only against the spring as in Fig. 3 or it may be bent to closely embrace the spring as in Fig. 4. As the strips are usually of sheet metal the flange may be marginal or central and if central as in Figs. 4 and 5, it is usually double walled in which case one of the walls is pressed out at the point of contact with the spring to form the tongue.

In Fig. 5, the body of the strip is upright and one of its margins is bent around the spring. When used as a base frame construction, the bending down or interrupting of the marginal flange necessarily weakens the latter and this is compensated for by the spring itself whose coil held in contact with the member acts as a reinforcement to the weakened zone. By this method of construction the use of clips or other spring fastenings independently of the frame members, is avoided, and as the strips do not have to be punched or machined in any manner before assembling, the cost of construction is greatly reduced inasmuch as the handling of the parts more than once is avoided.

Obviously, changes in the details of construction may be made without departing from the spirit of the invention and I do not wish to limit myself to any particular form or arrangement of parts.

I claim as my invention—

1. In a spring construction, a frame member having a longitudinal flange in a plane transverse to the plane of the body of the member, and springs disposed thereon, a convolution of each spring contacting with the body and flange of the member and the margin of the flange being interrupted adjacent the contacting portion of the spring with an off-set that is bent over the contiguous spring.

2. In spring constructions, sheet metal strips provided with longitudinal flanges transverse to the body of the strip, and springs each having a convolution resting

on a strip in contact with the flange, the marginal portion of the latter adjacent each spring being off-set as an interruption to the margin of the flange and being bent
5 around the spring.

3. In a spring construction, upright body springs and a rim frame consisting of flanged strips resting on the top convolutions of the springs with their flanges in
10 contact therewith, the marginal portions of the flanges adjacent the springs being in-bent around the springs.

4. In a spring construction, upright body springs and a rim frame consisting of
15 flanged strips resting on the top convolutions of the springs with their flanges in contact therewith, the marginal portions of the flanges adjacent the springs being in-bent around the springs, and the portion of the
20 convolution of each spring that bears

against the body of the strip being adapted to reinforce the strip at the point of interruption of the flange.

5. In a spring construction, upright spiral coiled body springs, and a rim frame surrounding the upper ends thereof and consisting of angle iron strips, each having one flange resting on the top convolutions of the springs which contact also with the other flanges, the marginal portions of the latter
25 flange adjacent each contacting spring being bent around the spring and forming interruptions to the margins of the flange itself.
30

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

LEONARD A. YOUNG.

Witnesses:

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OTTO F. BARTHEL.