

(Model.)

C. L. CHURCH.
PUZZLE.

No. 442,511.

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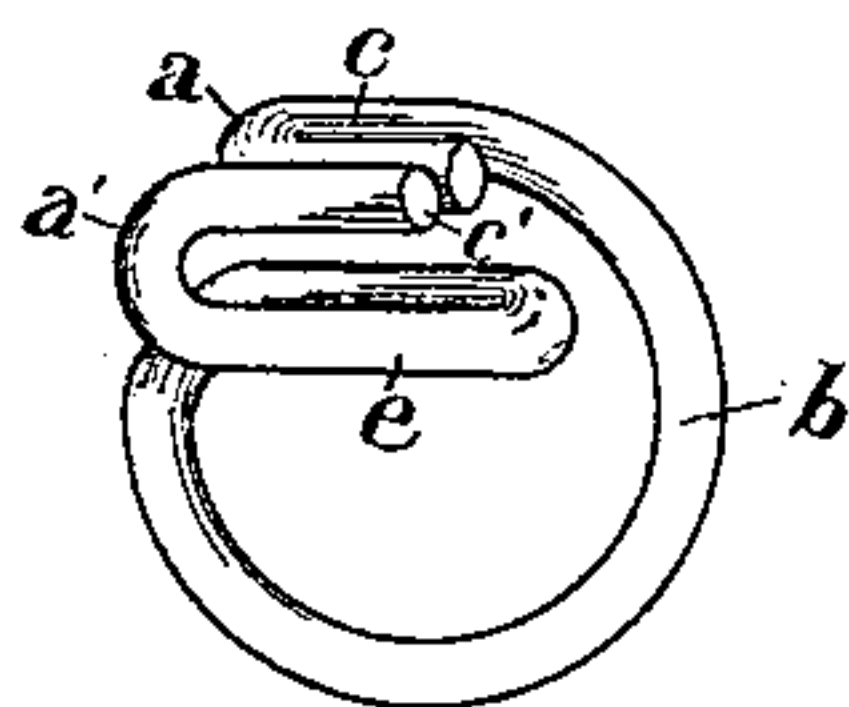


Fig. 1

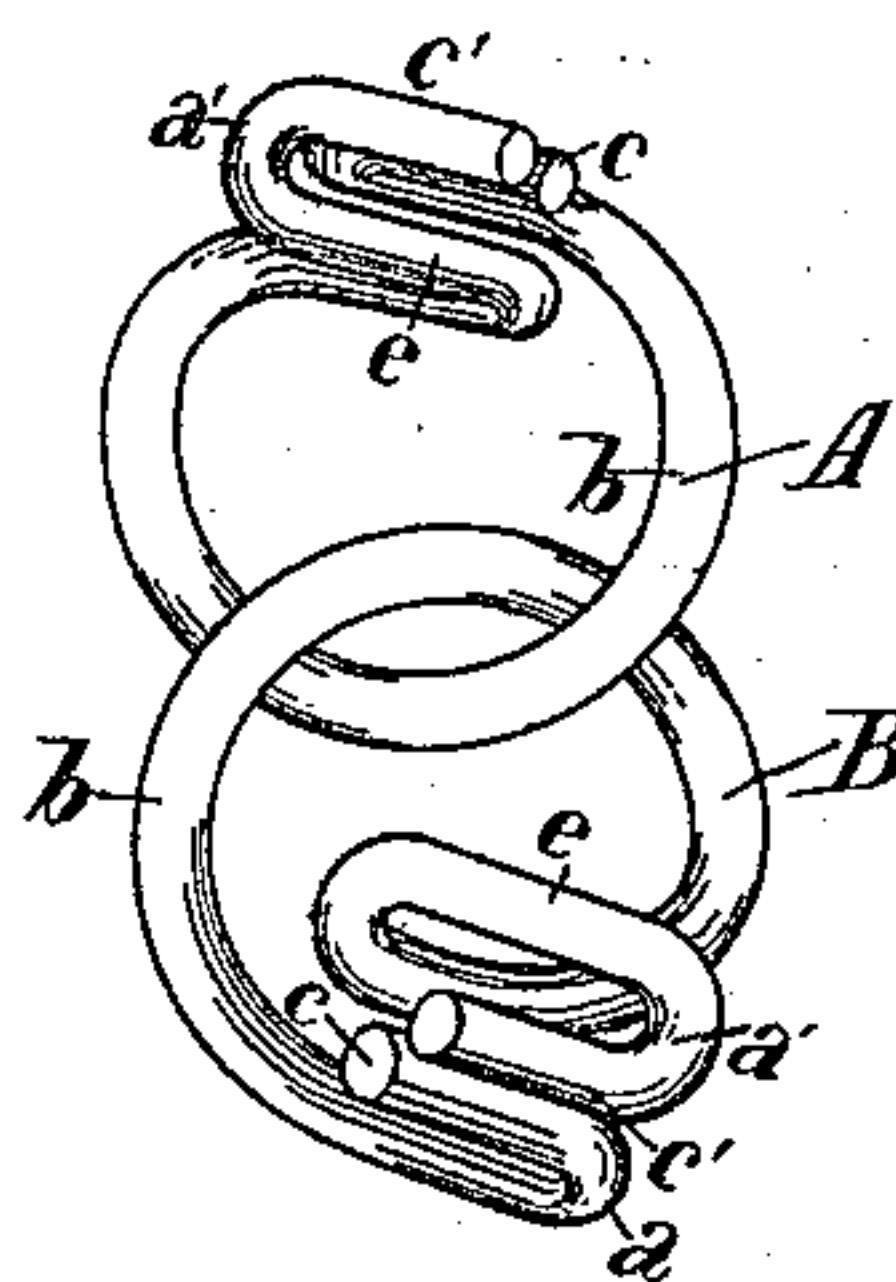


Fig. 2

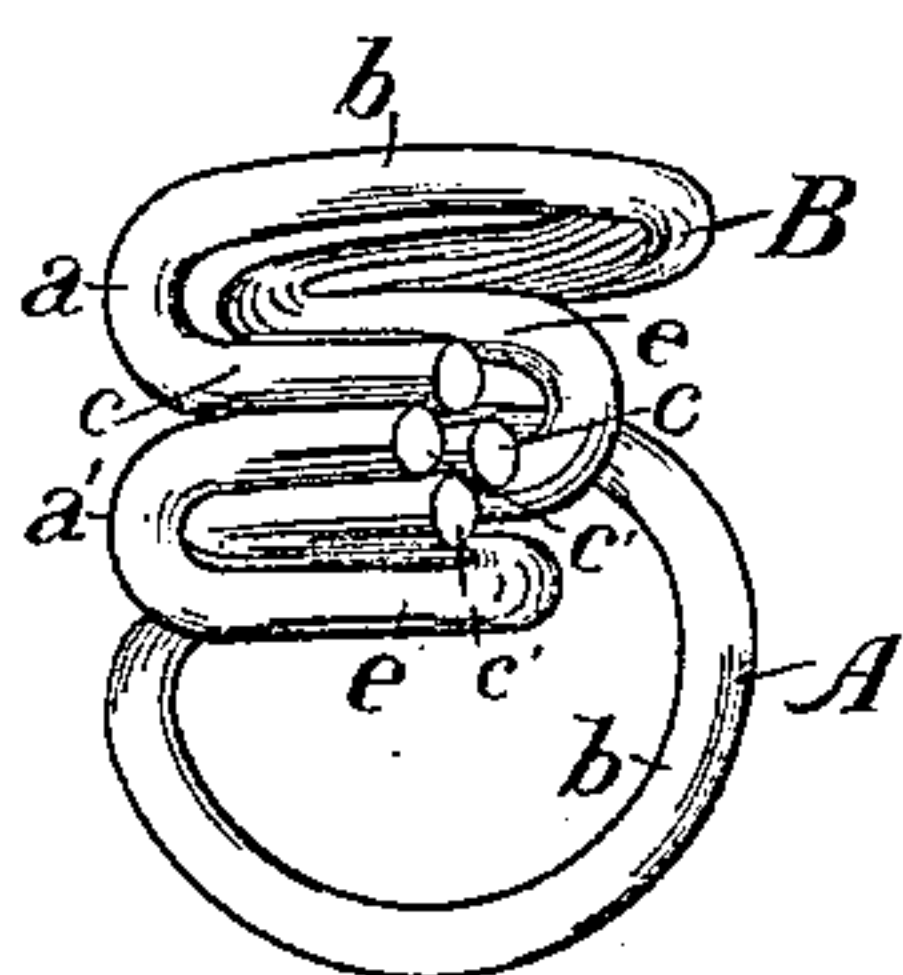


Fig. 3

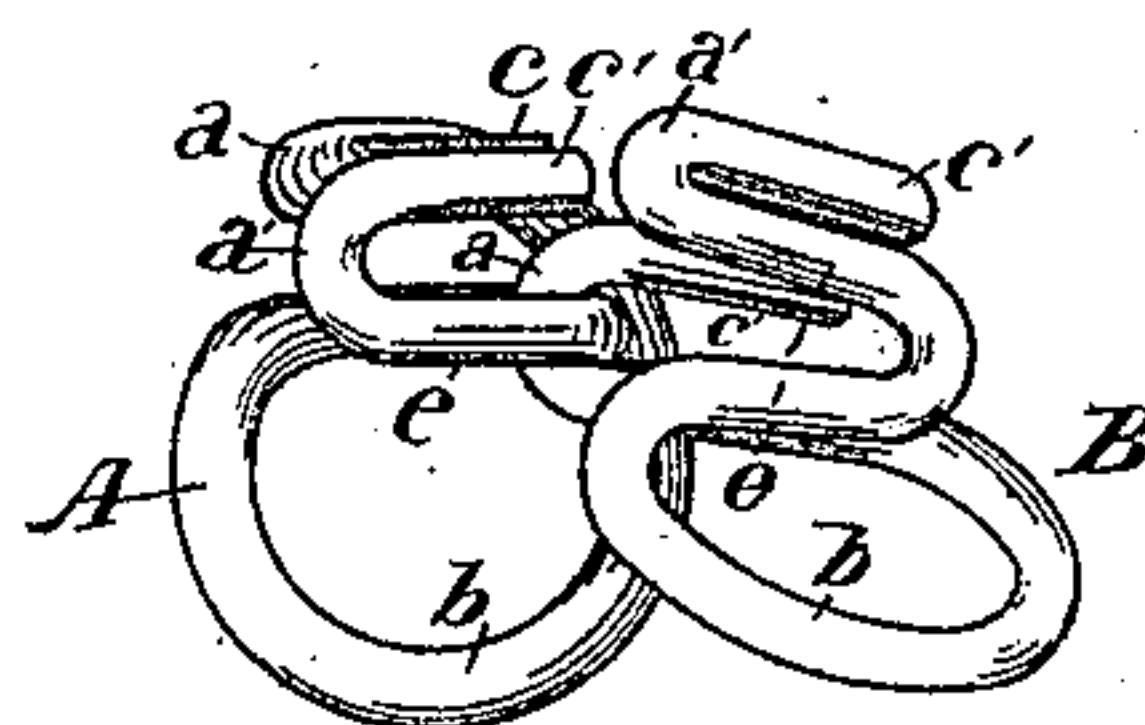


Fig. 4

Witnesses

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To all whom it may concern:

Be it known that I, CHARLES L. CHURCH, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented a new and useful Puzzle; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention consists of two independent and similar links constructed from common wire of sufficient stiffness to prevent springing, curved and bent into a peculiar form, as will hereinafter be explained, in such manner that they can only be united, and when united separated, by placing certain portions of each link in but one relative position.

Throughout the description reference is made to the accompanying drawings, in which—

Figure 1 shows a perspective view of one of the links of my improved puzzle. Fig. 2 is a similar view of two links united. Fig. 3 shows two links in the position to be united or separated. Fig. 4 is a similar view of the puzzle partly connected.

Similar letters of reference refer to correspondingly like parts throughout the several figures.

In the drawings, A represents one link of my invention, while B represents its companion, which is a counterpart of link A and is used in conjunction with it to form the puzzle. These links A and B are constructed from suitable wire cut to the desired length, and as the two are formed alike I will therefore proceed to describe but one, and refer to Fig. 1 of the drawings. The wire composing this link, after being cut to the desired length, is bent an equal distance from each end upon itself, forming two semicircular curves *a* and *a'*. The ends *c* and *c'* thereof extend in directions toward each other in parallel lines with the body of the wire. From a point upon the main wire opposite the end *c* a large curve *b* is described in a plane at about a right angle to the plane of the curve *a* from the projection of the end *c* to about three-quarters of a circle. The remaining portion of the wire is now bent to a sharp turn inward toward the opposite side of the large curve *b* in a direc-

tion parallel with and nearly under the extending end *c* until a point is reached directly under the latter, when it is brought around a one-half turn, forming a return-bend *e*, projecting in the same plane as the first bend *a* and at about a right-angled plane from the large curve *b*. Then, if the wire has been cut the right length and the curves properly made, the curve *a'* near the opposite end of the rod will project upward, and the end *c'* from this curve will extend in a direction parallel with and at the same height as the first mentioned end *c*. The distance between the two parallel ends *c* and *c'* should be such that the thickness of the wire cannot pass between them, or should be about one-half the diameter of the said wire. All previous parallel portions of the link should be formed with curves or bends large enough to admit a wire of similar caliber to easily pass between them.

A second link B (shown in Figs. 2, 3, and 4 of the drawings) should now be constructed to the same size, bends, and curves as the one above described and in exactly the same manner in order to complete the puzzle, which is to couple the links together in the position shown in Fig. 2 of the drawings, and then disconnect them. This can be done in but only one way, and that is as follows, viz:

Two links are taken—one in each hand—and held in different planes—that is, the large three-quarter-circle curve *b* of each link should be held in such position as to extend in a plane at right angles with the same curve of its neighbor link—with the points or ends of each link extending in the same direction. Then by sliding the two links together in the position shown in Fig. 3 of the drawings the two may be locked into the position shown in Fig. 4. Now by sliding the two links around their numerous curves they can soon be united into the position desired, and shown in Fig. 2 of the drawings.

The manner of disconnecting the two links is simply the reverse of that hereinbefore described to unite them, and the puzzle can be made to appear more complicated by adding two or more links upon one and then removing them by disconnecting the middle ones first.

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

1. In an improved puzzle, a link composed of a metal rod, formed by bending both ends the same distance back upon and parallel with itself, producing about a three-quarter-circle
5 curve from a point opposite one of these returned ends to extend in a plane at or nearly a right angle from the plane of the curve at this end, bending the remainder parallel with and nearly under the first end toward
10 the opposite side of this three-quarter circle, then at a point under the first-mentioned end, doubling the rod upon itself to project in a plane parallel to the plane of the bend at the first-mentioned end in such manner that the
15 curve near its opposite end will extend upward in a right-angled plane from the last-mentioned bend, and this opposite end project in the same direction parallel with and a distance from the first end about equal to one-
20 half the diameter of the rod, substantially as shown, and for the purpose set forth and described.

2. The combination, with a link composed of a metal rod having its ends bent back upon
25 and parallel with itself and curved into a

three-quarter-circle bend from a point opposite one of these ends in a plane at right angles with the plane of the bend at this end, then bending the remainder parallel with and nearly under the first end toward the opposite
30 side of the partial circle and at a point under the first-mentioned end, doubling the rod upon itself to project in a plane parallel to the bend at the first-mentioned end in such manner that the curve near the opposite end of the
35 rod will extend upward in a right-angled plane from the last-mentioned bend, and this opposite end project in the same direction parallel with and a distance from the first end about equal to one-half the diameter of the
40 rod, of a second link similar to and adapted to engage the first, it having its parallel ends constructed in a similar manner, substantially as shown, and for the purpose set forth and described.

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Witnesses:

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