962,039.

Patented June 21, 1910.
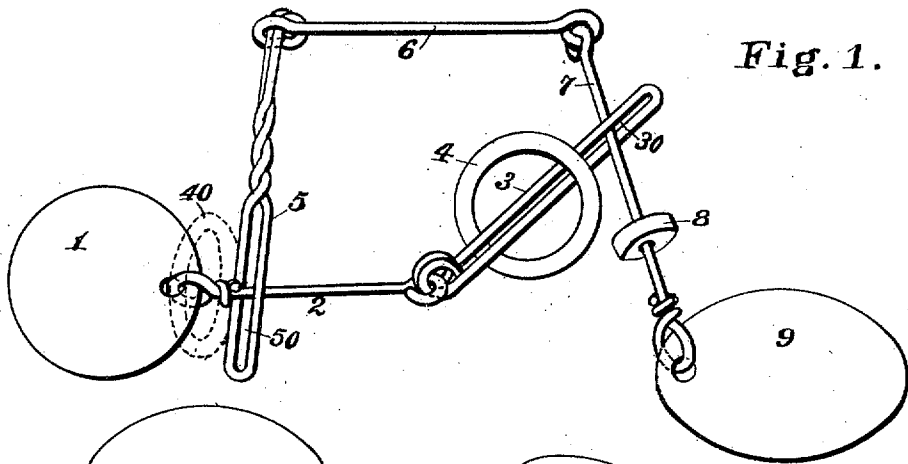
Fig. 1.
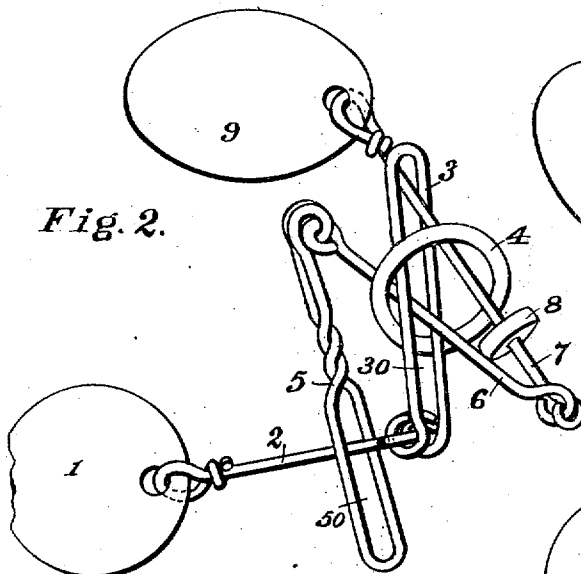
Fig. 2.
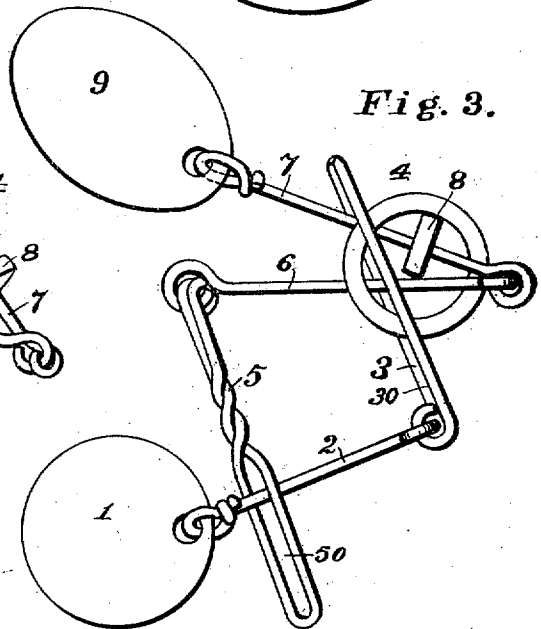
Fig. 3.

WITNESSES.

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Application filed April 27, 1909.　Serial No. 492,582.

To all whom it may concern:

Be it known that I, ELDON J. McFARLAND, a citizen of the United States, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

My invention relates to improvements in puzzles, and comprises a new and useful form of puzzle of the chain and ring type.

My invention consists of the new and useful parts and combinations of parts which will be hereinafter particularly defined in the claims.

The object of my invention is to produce a new puzzle which shall be interesting and not easy of solution and which may be simple and cheap of manufacture and easily carried about in the pocket.

In the drawings I have shown my puzzle in the form now preferred by me, and have illustrated the solution thereof.

Figure 1 shows the puzzle with the ring in place. Fig. 2 shows the position of the parts in an early step in the solution of the puzzle. Fig. 3 shows the position of the parts at a late period in the solution of the puzzle.

In the preferred form of my invention herein shown, I employ five links, 2, 3, 5, 6 and 7, which are connected together so as to form an endless chain. Two of these links, 3 and 5, which are non-consecutive, are what I call open links, that is are so formed that they have two sides connected at the ends. For the other links, 2, 6 and 7, I have used the generic term " inner " links for want of a better term. The essential characteristic of these " inner " links which I wish to imply by the use of this term is that they lie within and are embraced by the open links 3 and 5 and are slidable within or through the openings in said open links. As herein shown they are closed links, that is, are composed of a single bar, yet this feature is only incidental and not essential. The link 2 is pivotally connected with one end of the open link 3 and is embraced by or passes through the loop or opening 50 of the open link 5.

Upon the outer end of the link 2, which slidingly passes through or is embraced by the link 5, is secured a stop piece of such size and shape as will prevent its passage through the opening 50 in the open link, and also prevent its passage through the ring 4.

The preferred form for this stop piece is as a disk or plate 1 as shown. This form has certain advantages in providing surfaces upon which words and reading matter may be stamped.

In the preferred form of my puzzle the opening 50 in the link 5 is of sufficient length and width to permit passage of the ring 4. In such case the ring 4 might and preferably would, at the commencement of operations, be about or be capable of passing about all the links of the chain, that is be capable of passing back and forth from one stop piece 1 to the other 9, the links being all lying close together and extending in a string. This is shown by the position shown by the dotted lines 40. This ring may be slipped through the opening 50 while surrounding the link 2, whereupon it would be free to take the position shown in full lines at 4 in Fig. 1.

The open link 3 has an opening 30 of such length and width as to permit free passage of the stop piece 9 which is preferably in the form of a plate or disk and is pivoted to the outer end of the link 7. This link 7 is also an inner link, in the sense in which I have used the word, the same meaning only that it is embraced by and passes through another or open link. This inner link 7 has two stop pieces attached thereto, the disk 9 and the button 8 the latter being slidable upon the middle portion of the link. One of these, the disk 9, is secured to the end of the link and is of such size and shape that it may freely pass through the link 3, but cannot pass through the opening in the ring 4. The other stop, the button 8, is of such size and shape that it may pass through the opening in the ring, but cannot pass through the opening 30 in the link 3. This button 8 is also free to slide upon the link 7. The link 6 is pivotally connected with links 5 and 7, and links 6 and 7 and their pivotal connection or joint are of such size that they may pass freely through the opening 30 in link 3.

The puzzle as shown comprises an endless chain composed of five links, two of the non-consecutive links being open and the remaining links being free to slide therein, the whole comprising an endless chain. Two of those links which slide within the openings of the open links carry upon their outer ends stop pieces, one of said links carrying a single stop piece 1 which will

pass through neither its link nor the ring, while the other link 7 carries two stop pieces which are the complements of each other in the sense that one will pass through its link and not through the ring while the other will pass through the ring and not through the link.

The solution of this puzzle is obtained as follows: If the commencement of operations be with the ring outside of or slidable over all the links, as is shown by the dotted position 40, the ring is first slipped through the opening 50 into the position shown in full lines in Fig. 1. The next step consists in passing the stop piece 9 through the opening 30 in link 3 and the passing of the ring over the joint by which links 6 and 7 are connected and also over the stop button 8, or into the position shown in Fig. 2. The ring is then passed along until it passes over the end of the link 3, whereupon it embraces only the links 6 and 7. The next step consists in passing the ring through the opening 30 in link 3 while it is still about links 6 and 7, which position is shown in Fig. 3. After passage of the ring through the link 3 it may be slipped off the ends of the links 6 and 7.

What I claim as my invention is:

1. In a puzzle, the combination with a ring, of five links connected to make an endless chain, two non-consecutive links being open, through which links the other links extend, stop pieces secured to the outer ends of said other links to prevent the withdrawal of the open links therefrom and the passage of the ring.

2. In a puzzle, in combination, an endless chain and a ring slidable thereon, said chain containing an open link through which said ring may pass and two connected links consecutive with and adapted to slide within said open link, one of said two connected links carrying two stops upon the end which projects through the said open link, one stop being incapable of passing through the open link but passable through the ring and the other stop being passable through the open link but not passable through the ring.

3. A puzzle comprising an endless chain and a ring, the chain including an open link through which the ring may be passed, two links consecutive with and adapted to slide through said open link, the one of said last named links which is next to the open link carrying two stops, the inner one being slidable upon its link and not passable through the open link, and the outer one being passable through the open link and not passable through the ring.

4. In a puzzle, the combination with a ring, of links connected to form an endless chain, two non-adjacent links being open and the other links being slidable through said openings, a stop secured to the outer end of one of said other or slidable links and of a size forbidding passage through either the ring or the open link adjacent thereto, two stops secured to the outer end of one of the other of said slidable links, one of said stops being of a size and shape forbidding passage through the open link but passable through the ring, and the other stop being passable through the link and not passable through the ring.

5. In a puzzle, the combination with a ring, two sets of connected links, one terminal link of each set being open and the other terminal link of each set slidable within the open link of the other set, whereby an endless chain is formed, stop pieces secured to the outer ends of the links which are embraced by the open links, the openings in said open links being in one case smaller than its associated stop and in the other case being large enough to permit passage of its associated stop, a button associated with said last mentioned stop and slidable upon its link, said button being too large to pass through its open link but passable through the ring, both of said stops being not passable through the ring.

In testimony whereof I have hereunto affixed my signature at Seattle, Washington this 21st day of April, 1909.

ELDON J. McFARLAND.

Witnesses:
H. L. REYNOLDS,
G. A. SPENCER.