

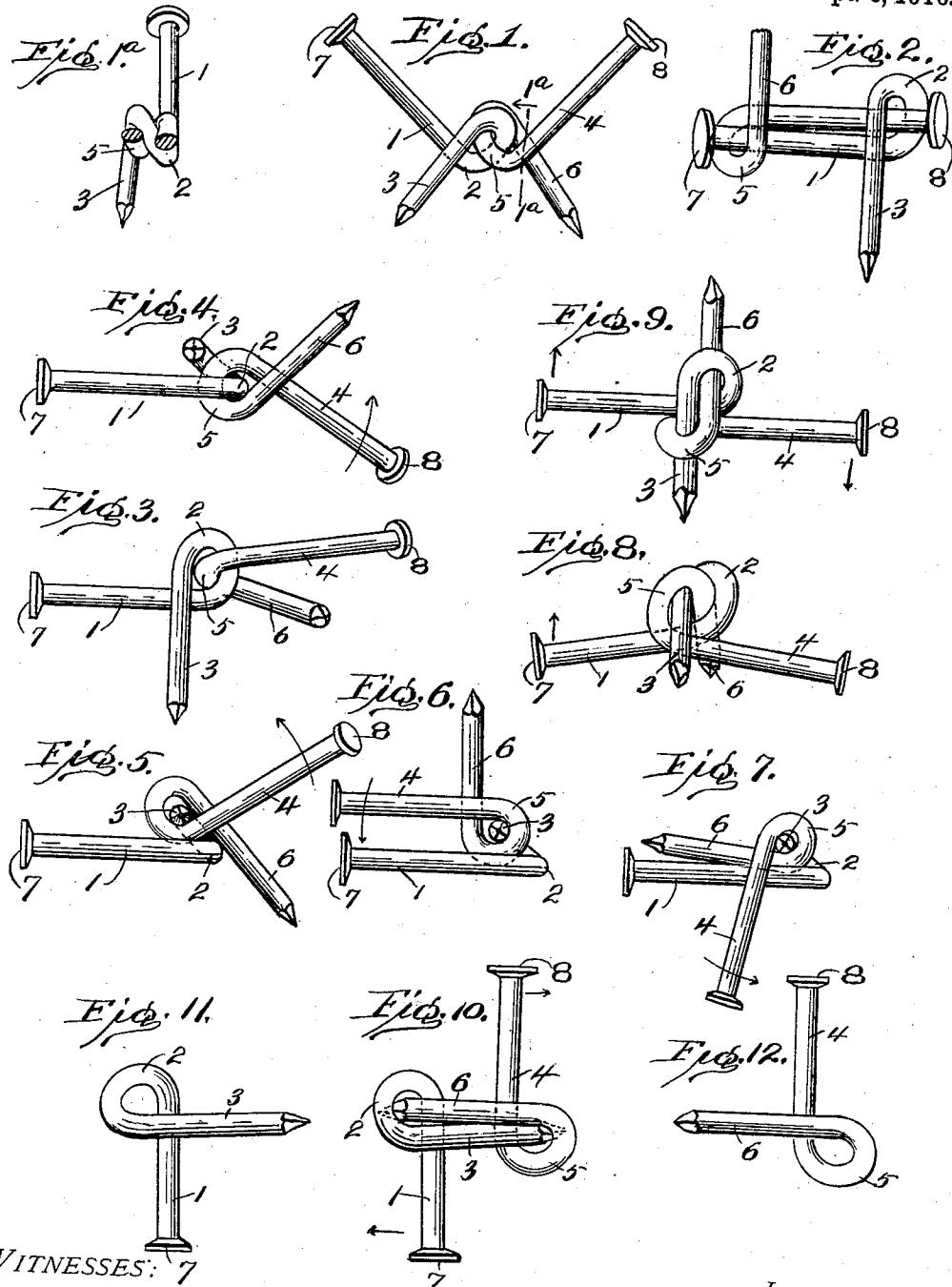
W. S. JENKINS.

PUZZLE.

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969,481.

Patented Sept. 6, 1910.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## PUZZLE.

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To all whom it may concern:

Be it known that I, WALTER S. JENKINS, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Puzzles; 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 appertains to make and use the same.

This invention relates to improvements in puzzles particularly of the type in which one element is designed to be interlooped into the other, and the solution of the puzzle consists in the disengagement of the elements and reengagement thereof.

The object in view is the rendering of the solution of the puzzle as difficult as practicable while constructing the parts at a minimum expense.

In the accompanying drawing:—Figure 1 is an edge view of the puzzle embodying the features of the present invention. Fig. 1<sup>a</sup> is a transverse section taken on the plane indicated by line 1<sup>a</sup>, 1<sup>a</sup> of Fig. 1 and looking in the direction indicated by the arrow. Fig. 2 is a plan view of the parts seen in Fig. 1 in the position assumed when the heads interfere with the disconnection of the parts. Fig. 3 is a plan view of the parts seen in Fig. 1 in the first position assumed for detachment of the parts. Fig. 4 is an edge view of the same in the same position. Fig. 5 is an edge view of the same in the next succeeding position of removal. Fig. 6 is a similar view of the same in the next succeeding position. Fig. 7 is a similar view of the same in the next succeeding position. Fig. 8 is a similar view of the same in the next succeeding position after the position seen in Fig. 7. Fig. 9 is a plan view of the parts as seen in Fig. 8. Fig. 10 is a plan view of the same in the next succeeding position after that seen in Figs. 8 and 9. Figs. 11 and 12 are plan views respectively of the two elements after having been moved apart and out of contact, from the position seen in Fig. 10.

Referring to the drawing by numerals, 1 indicates a rod or bar of any suitable type which is bent to a position approximately at right angles to itself forming a loop 2 and a terminal portion 3, the terminal portion 3 being spaced from the main portion

of the rod 1, as clearly seen in Figs. 5, 6 and 7, a distance less than the diameter of the rod and a distance at least as great as one-half such diameter, and of course a distance less than the diameter of the co-acting rod 4. The rod 4 is a substantial duplicate of rod 1 and is bent exactly like the rod 1, in every particular so that the rods are interchangeable, and one element from one puzzle may be interchanged with an element from another puzzle. Hence in the manufacture, two of the elements may be selected from a supply at random and constitute a complete puzzle, and furthermore the stamping of the elements may be performed by the use of a single die. The rod 4 is thus bent into a loop 5 corresponding to the loop 2 and is provided with a terminal portion 6 corresponding to the terminal portion 3, the terminal portion 6 being spaced from the main portion of the rod 4 at the point of crossing a distance less than the thickness of the rod 4, or of the rod 1, as clearly indicated in Fig. 1<sup>a</sup>.

In order to render the puzzle more difficult of solution, the rod 1 is provided with a detent or stop consisting of a solid head 7, and the rod 4 is provided with a similar head 8, said heads being at the ends of the rods 1 and 4, and serving to prevent separation of the elements as indicated in Fig. 4 and as will be hereinafter fully pointed out.

In operation, the parts are normally interlooped, as seen in Fig. 1, and in order to disconnect the same, the operator will grasp the rods 1 and 4 near their heads 7 and 8 and position them as indicated in side elevation in Fig. 4 and in plan view in Fig. 3. The rod 4 is then moved upwardly on a curved line, as indicated by the arrow in Fig. 4, and simultaneously twisted so as to swing the loop 5 upwardly about the terminal portion 3, and at the same time bring the parts to the position indicated in Fig. 5. When the parts have assumed the position indicated in Fig. 5, the rod 4 is swung bodily on a circular line in the direction indicated by the arrow in Fig. 5 until the parts assume the position indicated in Fig. 6. The rod 4 is then continued in its swinging movement on a circular line, as indicated by the arrow in Fig. 6, until it assumes the position indicated in Fig. 7, and is then moved on a circular line upwardly in the direction indicated by the arrow in Fig. 7 until the parts assume the position indicated in Fig. 8. The rod 4 is then continued in its swinging movement on a circular line, as indicated by the arrow in Fig. 8, until it assumes the position indicated in Fig. 9, and is then moved on a circular line upwardly in the direction indicated by the arrow in Fig. 9 until the parts assume the position indicated in Fig. 10.

cated by the arrow in Fig. 7 to the position indicated in Fig. 8. This last position is also indicated in Fig. 9. During this manipulation of the rod 4, the rod 1 is held stationary relative to rod 4, and as the rod 4 is being swung from the position indicated in Fig. 6 to the position indicated in Fig. 8, the terminal portion 6 passes back of the rod 1 and the main portion of the rod 4 passes 10 in front of the rod 1 swinging about the terminal portion 3 of rod 1 as a pivot. When the parts have assumed the position indicated in Fig. 9, it is only necessary to draw them apart in the direction indicated 15 by the arrows in Fig. 9, and during this parting movement the parts will assume the position indicated in Fig. 10, and then after being entirely separated they will assume the position indicated in Figs. 11 and 12.

20 Obviously the position indicated in Fig. 10 is exactly the same as that indicated in Fig. 2, except that in Fig. 2 the terminal portions 3 and 6 have been grasped by the operator, and the operation carried out in an 25 inverse order, so that the main portions of the rods have been drawn through the loops instead of the terminal portions, and the heads 7 and 8 therefore prevent separation of the parts, as the said heads are larger 30 than the openings in the loops. This obviously renders the solution of the puzzle more difficult, as the operator is just as liable to bring the parts to the position indicated in Fig. 2 as to bring them to the position indicated in Fig. 10, and when in the position indicated in Fig. 2 he has not only failed to solve the puzzle, but has rendered the solution more difficult in making it necessary to return the parts to the position indicated in 40 Fig. 1. Obviously the puzzle may be placed on the market in the position indicated in Fig. 2 if preferred to the position indicated in Fig. 1 in order to render the solution of the puzzle apparently more difficult.

45 An advantage of the present invention resides in the fact that the material employed need not be specially provided, as the elements of the puzzle may be constructed from nails, and the dies may be 50 formed to receive a nail of given gage, and successive nails may be stamped into the shape desired and any two of them may be used as a complete puzzle. Of course, various sizes of dies must be used for different 55 gages of nails, and the sizes of the puzzle would accordingly vary, the ratio of the distance between the main portion of the rod and its terminal portion being maintained the same, as the sum of the distances 60 between the rod 1 and its terminal portion 3 and rod 4 and its terminal portion 6 must at least equal the diameter of one of the rods, and is preferably a little in excess of such diameter, so as to permit the parts to 65 separate easily without any strain or spring-

ing of the parts. The heads 7 and 8 thus serve to eliminate one direction of separation of the parts and one otherwise possible solution, so that but the single solution of the puzzle is left to be carried out after the 70 manner above set forth, to wit, by drawing the terminal portions of the rods out through the loops, and the parts may be assembled only by a reverse movement, that is by thrusting the terminal portions through the 75 loops, starting with the position indicated in Fig. 10, and reversing the movement of disconnection by moving the parts to the position indicated in Figs. 9 and 8, and then to the position indicated in Fig. 7, and then 80 Fig. 6, and then Fig. 5, and finally to the position indicated in Figs. 3 and 4. Obviously, instead of moving the rod 4 and retaining the rod 1 stationary, the rod 1 may be moved and the rod 4 held stationary for 85 accomplishing disconnection of the parts, but this is only the same relative movements of the parts, and therefore but the single solution of the puzzle is provided for.

What I claim is:

1. A puzzle comprising looped rods, each a duplicate of the other and each having a portion extending from the loop and crossing the main portion of the rod, the crossing portion of each rod being spaced from the main portion thereof a distance less than the thickness of the rod and as great as one-half such thickness, and the loops of the two rods being adapted to be interlooped.

2. A puzzle comprising looped rods, each 100 a duplicate of the other and each having a terminal portion extending from its loop across the main portion of the rod, and spaced from the main portion of the rod a distance less than the thickness of the 105 rod and as great as one-half such thickness, and means for preventing the main portion of the rods from passing through the loops, the said loops being adapted to be interlooped.

3. A puzzle comprising a pair of rods, each a duplicate of the other and each having a main portion formed with a loop terminating in a terminal portion crossing the main portion and spaced therefrom a distance less than the thickness of the rod and as great as one-half such thickness, and a head on the main portion of each rod larger than the opening in the loop, the loops of the rods being adapted to be interlooped.

4. A puzzle comprising a pair of rods, each a duplicate of the other and each bent into a loop terminating in a portion crossing the main portion of the rod and extending substantially at right angles to the main portion of the rod and spaced from the main portion a distance as great as one-half the thickness of the rod and less than the thickness of the rod, the said loops being adapted to be interlooped.

5. A puzzle comprising two nails each a duplicate of the other and each bent intermediate its length into a loop and having a terminal portion extending from the loop crossing the main portion of the nail and spaced from such main portion a distance as great as one-half the thickness of the nail and less than the entire thickness of the

nail, the loops being adapted to be inter-looped.

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

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Witnesses:

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