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PUZZLE

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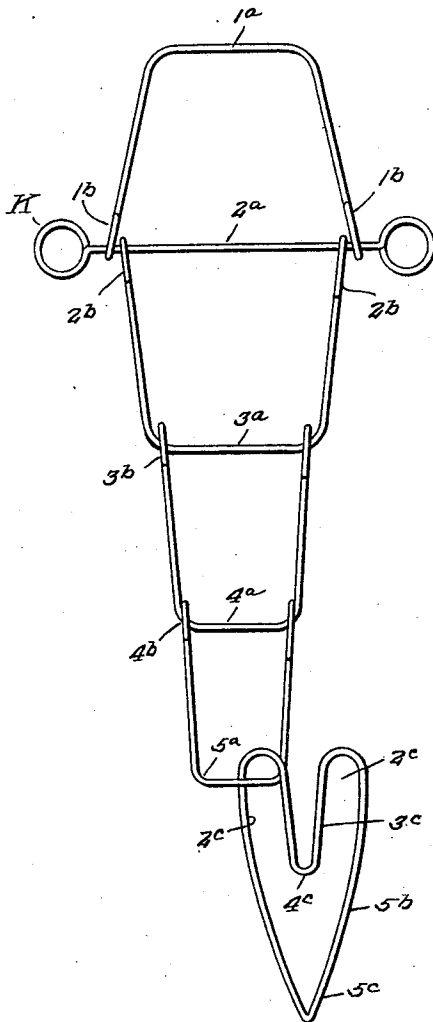


Fig. 1.

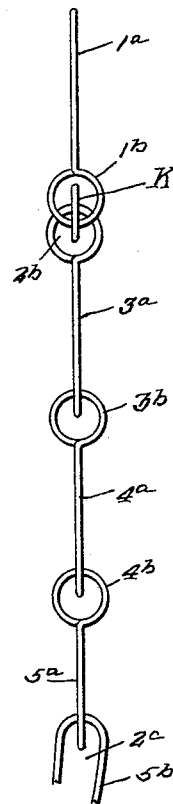


Fig. 2.

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PUZZLE.

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This invention relates to improvements in the class of amusement devices, and has for particular reference a novel puzzle requiring unusual skill and mental concentration to solve.

The invention briefly consists of a plurality of loosely interconnected members, a key element connected to the said members, and a frame constructed preferably of a single piece of wire having its ends joined.

This frame member by a succession of movements thereof and manipulations of the key will detach from the puzzle members.

An important object of the invention is to provide a puzzle of this character wherein the parts thereof can be manufactured of inexpensive material and constructed at low cost with the end in view of producing a difficult puzzle at a reasonable cost.

Another object of the invention resides in the provision of a puzzle capable of being collapsed and packed within a small carton for shipment.

Other important objects and advantages of the invention will become apparent as the nature of the invention proceeds and when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 represents a side elevation of the puzzle with the detachable frame member at the starting point, and

Figure 2 represents a fragmentary edge elevation of the puzzle.

Referring to the drawings, wherein like numerals designate like parts, the construction of the puzzle includes a predetermined number of crescent shaped members 1^a, 3^a, 4^a and 5^a. The crescent 1^a has its ends bent to provide rings 1^b. The crescent member 3^a is provided with ring members 2^b at its ends, the member 4^a, with rings 3^b and the member 5^a with ring members 4^b at its ends. The crescent members 1^a and 3^a are disposed so that their ring members will register in the manner shown in Figure 1. Through these registering rings a key member 2^a is disposed and this key member is provided with a ring K at each end thereof. The rings 1^b, 2^b, 3^b and 4^b at one side of the puzzle, are larger in diameter than the ring members at the opposite side of the structure, that is, each crescent member is formed at one end with a small ring and a larger ring at its opposite end.

A heart-shaped frame 5^b is constructed of

a single strip of preferably wire, with its ends joined and in inter-connected relation with the crescent member 5^a. The material of which the member 5^b is constructed is disposed inwardly at one point to provide a U-shaped projection 3^c, having its free end designated by numeral 4^c.

The spaces between each leg of the projection 3^c and the adjacent portion of the frame will be designated as 2^c. The reduced end portion of the frame 5^b is designated by 5^c.

The operation of the puzzle is as follows: To detach the heart shaped frame 5^b from the puzzle, hold the puzzle with the left hand, that is, with the thumb, first and second fingers on rings 1^b, 2^b, and ring K, at the side of the structure on which the small rings 1^b, 2^b, 3^b, and 4^b are located. The ring K is to be held vertically at all times, during the working of the puzzle. Hold the heart shaped frame 5^b by its reduced end portion 5^c with the right hand. Permit the bight portion of the crescent member 5^a to engage in the space 1^c made of the frame 5^b. Give the frame 5^b a twist toward the left and bring the same upwardly. Insert the projection 3^c between rings 1^b and 2^b, so that the bight portion of the projection will bear against the key 2^a.

Then bring point 4^c out through ring 1^b, and subsequently disposed ring K down between the leg portions of the U-shaped projection 3^c. The heart 5^b is then to be pushed backwardly to clear 1^b. Bring the point 4^c of the projection out through the rings 2^b and 1^b. The ring K may then be moved upwardly between the legs of the projection 3^c.

The heart 5^b is then pushed to clear rings 1^b and 2^b. Then hook the ring 3^b with point 4^c of the projection 3^c and move upwardly.

The point 4^c is then inserted through rings 2^b and 1^b, subsequently moving the ring K downwardly between the leg portions of the projection 3^c. The heart 5^b is then moved backwardly to clear rings 1^b and 2^b at the same time holding the heart 5^c in a vertical position.

Pass ring 2^b between the leg portion of the projection 3^c and then bring the point 4^c out through ring 1^b, later moving ring K up between the leg portions 3^c. The heart 5^b is then disposed backwardly to clear rings 1^b and 3^b.

Now, place the frame 5^c so that the crescent 4^a is disposed through the space 2^c of

the heart shaped frame. Give the frame 5^b a right twist and move the same upwardly, subsequently placing the projection 3^c between the rings 1^b and 2^b against the key 2^a.

5 Then bring point 4^c of the projection through the ring 1^b, after which the ring K is moved downwardly between the leg portions of the projections 3^c. The heart shaped frame 5^b is then moved backwardly to clear ring 1^b. The point 4^c is then shifted outwardly through rings 2^b and 1^b, after which ring K is moved upwardly between the leg portions of the projections 3^c.

15 In continuing with the operation, the heart 5^b is pushed backwardly to clear rings 1^b and 2^b. The reduced end portion of the frame 5^b is passed between K-bar 2^a and crescent 3^a, later grasping the same on the other side of the puzzle structure with the right hand. Hook rings 4^b and 3^b with point 4^c. Move the same upwardly. Then hold the heart 5^b horizontally, and push the same backwardly sufficiently to permit point 4^c outwardly to pass through rings 2^b and 1^b.
25 Ring K is then to be disposed between the leg portions of the projections 3^c.

After this, move the heart 5^b backwardly to clear the rings 1^b and 2^b. Hold the frame at the reduced portion 5^c in a vertical position; pass the ring 2^b between the leg portions of the projection 3^c, after which bring point 4^c out through the ring 1^b. The ring K then is moved upwardly between the leg portions of the projection 3^c. Now push heart back to clear ring 1^b and 3^b. The ring 3^b is then passed back between the leg portions 3^c. Bring point 4^c out through ring 1^b and permit ring K to move downwardly between the leg portion of the projection 3^c.
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The heart 5^b is again pushed backwardly to clear ring 1^b. Pass ring 2^b between the leg portions of the projection 3^c. After this, bring point 4^c out through the rings 2^b

and 1^b and subsequently disposed ring K 45 between the leg portions of the projection.

The heart 5^b is then moved to clear rings 1^b and 2^b. Bring point 4^c out through ring 1^b and move ring K upwardly between the leg portions 3^c. Push heart 5^b back to clear ring 1^b. Dispose the heart 5^b, between rings 1^b and 2^b and the heart may then be completely detached from the puzzle structure. 50

In working the puzzle, the point 4^c of the heart 5^b should always be moved from the inside of the crescent ring. All of the rings on the crescent and the rings of the keeper are welded, soldered or securely joined. To properly operate the puzzle, the upper crescent should always be disposed in a vertical position. 60

It will thus be seen that the present invention provides a puzzle device consisting in a considerable number of moves, in order to finally solve the same, without the necessity of a great number of pieces. 65

Having described the invention, what is claimed as new is:

In a puzzle of the character described, a plurality of crescent shaped members, said 70 crescent shaped members being provided with rings at their ends, certain of said members being connected together through said rings, one of said crescent members having its rings registering with the rings of one of the other crescent members, a key member disposed through said registering openings, and a heart shaped member interconnected with said crescent member and adapted to be detached therefrom after a succession of predetermined movements, said heart shaped member being bifurcated at its upper portion to provide a pair of relatively narrow spaced legs capable of being inverted through the rings at the ends 85 of the crescent members.

In testimony whereof I affix my signature.
FRANK GONZALES.