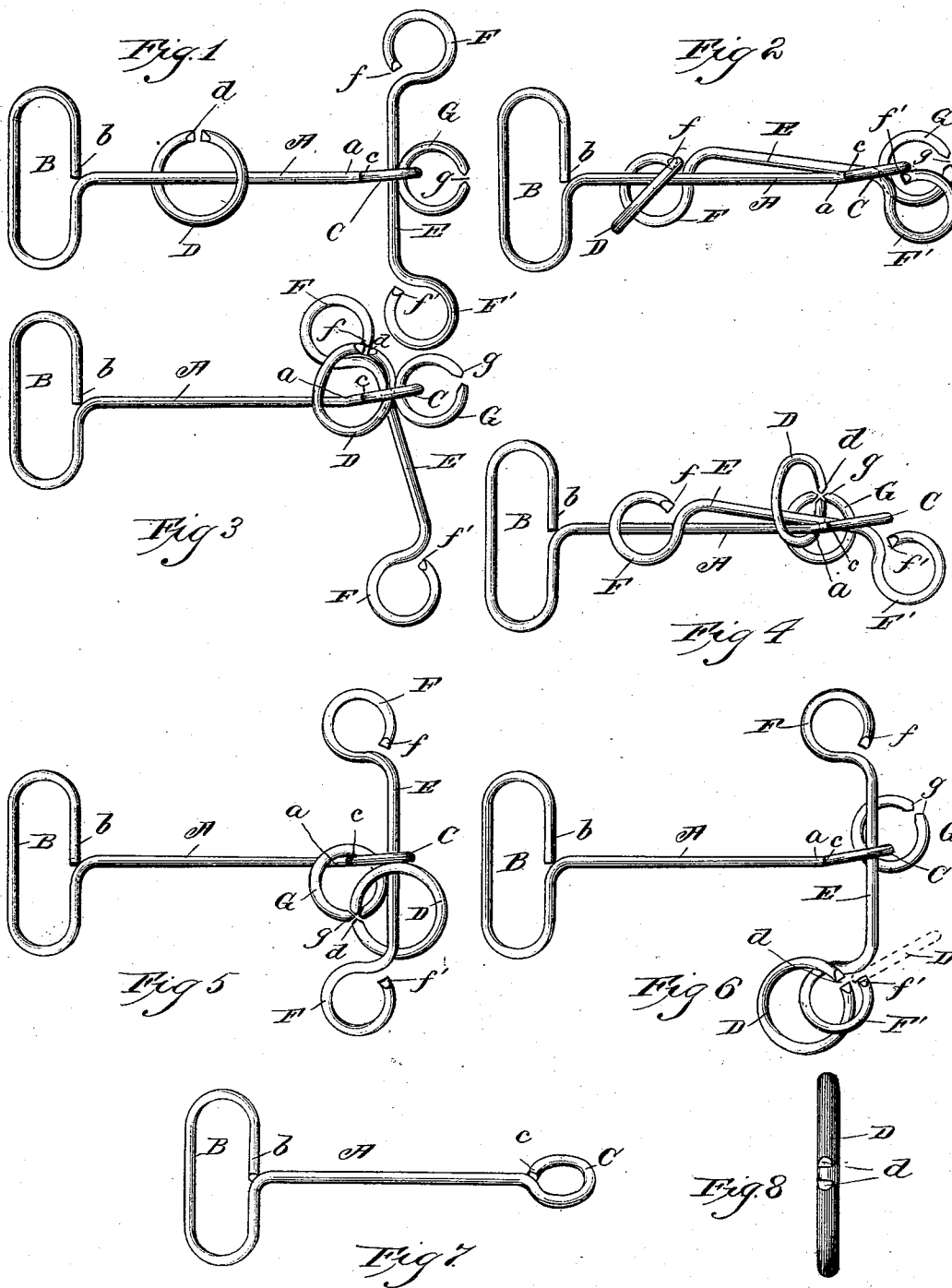


(No Model.)

J. A. SCHAFFER.  
PUZZLE.

No. 490,757.

Patented Jan. 31, 1893.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN A. SCHAFFER, OF KENSINGTON, ILLINOIS.

## PUZZLE.

SPECIFICATION forming part of Letters Patent No. 490,757, dated January 31, 1893.

Application filed October 14, 1892. Serial No. 448,856. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. SCHAFFER, a citizen of the United States, residing at Kensington, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

This invention relates to improvements in puzzles, and consists in certain peculiarities of the construction, novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The object of my invention is to afford a puzzle or toy to be used for amusement or pastime, which shall be simple and inexpensive in construction, yet strong and durable, and the solving of which consists in the removal from or replacing on the main stem of the device a ring, which operation is performed with great difficulty by the inexperienced.

In order to enable others skilled in the art, to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a plan view of my puzzle, as it appears when in its normal position. Fig. 2, is a similar view showing the position of the parts in the first step of removing the large ring from the main stem. Fig. 3, is a like view showing the second step in the said operation. Fig. 4, is a view showing the third step. Fig. 5, is a view showing the fourth step. Fig. 6, is a view illustrating the last step. Fig. 7, is a perspective view of the main stem of the device with the other parts detached. And Fig. 8, is an enlarged view of the removable ring detached, showing the angular bevels of its ends.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents the main stem of my puzzle, and consists of a wire or other suitable material, formed at one end with an elongated ring or enlargement B, and at the other end with a smaller and circular ring C. The rings B, and C, are preferably formed integral with the stem A, and as shown in the drawings the free ends *b*, and *c*, of the rings B, and C, respectively, contact with the stem

A, or may be united thereto, so as to prevent the main or removable ring D, from being passed between said free ends and the stem.

Through the ring C, is passed a cross stem or arm E, which has each of its ends formed into rings or circles F, and F', the free ends *f*, and *f'*, of which are beveled or formed wedge-shaped, and remain a slight distance from the stem E, as is clearly seen in the different views of the drawings.

Linked in the ring C, is a broken ring G, which has its ends *g*, beveled or formed wedge-shaped and brought closely together, as in Fig. 1. Encircling the stem A, is placed the removable broken ring D, which has its ends *d*, beveled or formed wedge-shaped and brought closely together, and which has a diameter of sufficient size to pass over the ring C, but not large enough to allow of the passage of the rings F, and F', and G.

My object in forming the rings D, F, and F', and G, broken and with beveled or wedge-shaped ends, is that the broken part of the ring D, when placed at right angles with either of the broken portions of the other rings, may be passed between the said broken portions, as is obvious.

By reference to Figs. 1 to 6 inclusive, of the drawings, it will be seen that the stem A, is formed with a slight lateral bend or crook *a*, at or near the juncture of the ring C, which construction allows the cross stem or arm E, to assume the position shown in Fig. 2, or to be brought nearer in alignment with the stem A, than it could be if the stem A, was formed perfectly straight.

To remove the ring from the stem A, the operation is as follows: The cross stem or arm E, is placed in the position shown in Fig. 2, when by placing the broken ends *d*, of the main ring D, at right angles to the beveled ends *f*, of the ring F, on the stem E, it can be passed to within the latter named ring, and may then be slid down the main stem A, to the position indicated in Fig. 3, when by a similar operation as above described, it may be removed from the ring F, and will then encircle both of the stems A, and E, as shown in Fig. 4.

As the ring B, is not of diameter large enough to pass over the ring G, and as it is necessary for the main ring to pass the

ring G, before it can be removed from the stem E, it is accomplished in the following manner. The beveled ends of the ring D, are placed substantially at right angles with the beveled portion of the ring G, when it is  
5 easily passed to within said ring, as is illustrated in Fig. 4, when the parts may assume the positions indicated in Fig. 5, which illustrates the main ring in the act of being with-  
10 drawn from the ring G, so that it will encircle the stem E, just above the ring F', thereof. By again placing the broken beveled portions *d*, of the main ring at right angles with the beveled portions *f'*, of the ring F',  
15 it may be inserted into the latter named ring, and be easily withdrawn therefrom by placing the main ring in the position indicated by dotted lines in Fig. 6.

To replace the ring upon the main stem A,  
20 it is only necessary to pursue the reverse of the operation described above.

It will be seen by reference to Fig. 8, of the drawings, that the ends *d*, of the main or removable ring D, are not beveled vertically  
25 with the convolution of the ring, but at an angle therewith, and it will be understood

that if they were beveled vertically that it would be impossible for the main ring D, to pass within the ring F, as shown in Fig. 2, of the drawings.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

As an improved article of manufacture a puzzle, consisting of the main stem A, having  
35 the rings or enlargements B, and C, the cross-stem or arm E, encircled by the ring C, and having the broken rings F, and F', provided with the beveled ends *f*, and *f'*, respectively, the broken ring G, having the beveled ends *g*,  
40 and linked in the ring C, and the broken removable or main ring D, having the beveled ends *d*, all constructed, arranged and operating substantially as shown and described and  
45 for the purpose set forth.

In witness whereof I have hereunto set my hand this 11th day of October, A. D. 1892.

JOHN A. SCHAFFER.

Witnesses:

CHAS. C. TILLMAN,  
E. A. DUGGAN.