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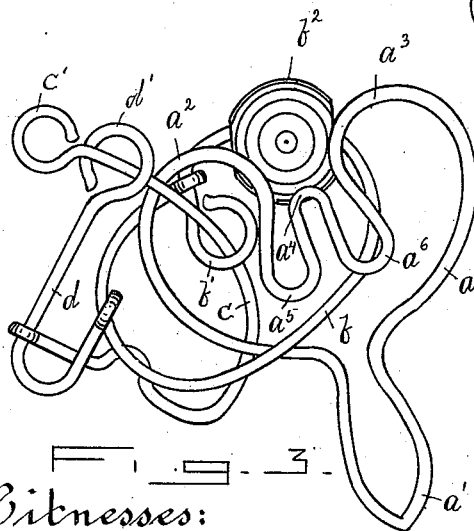
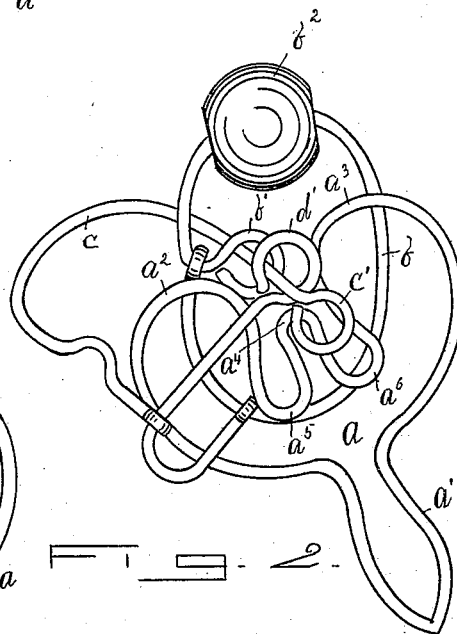
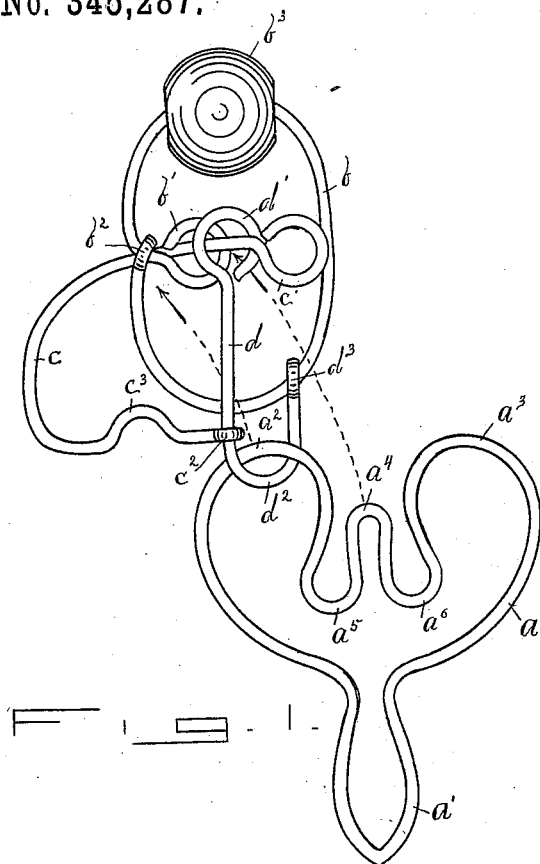
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C. G. DRESS.

PUZZLE.

No. 345,287.

Patented July 13, 1886.



Witnesses:

Otto Hoddick.  
F. W. Fay.

Inventor.

Chas. G. Dress  
By W. T. Miller  
Attorney.

(Model.)

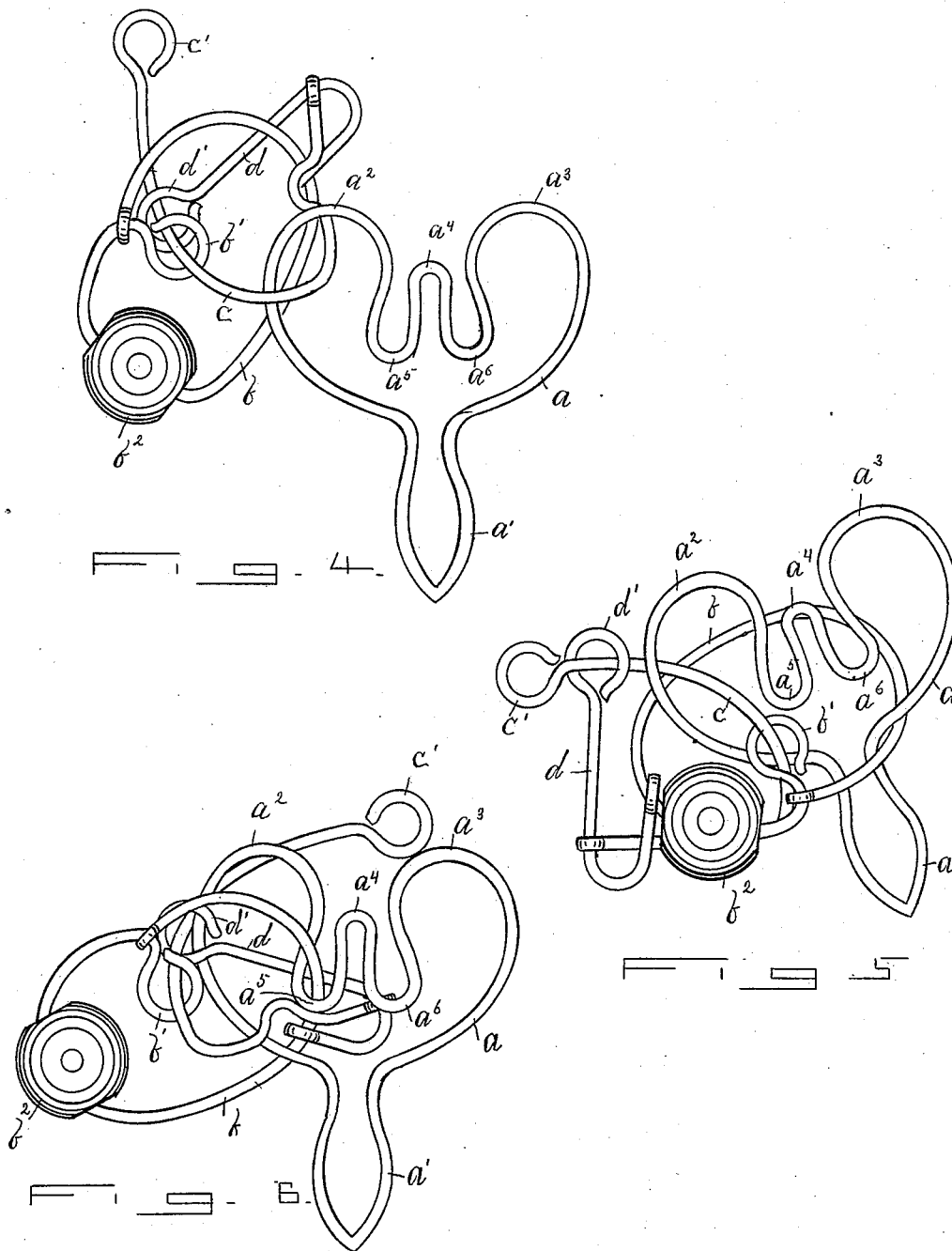
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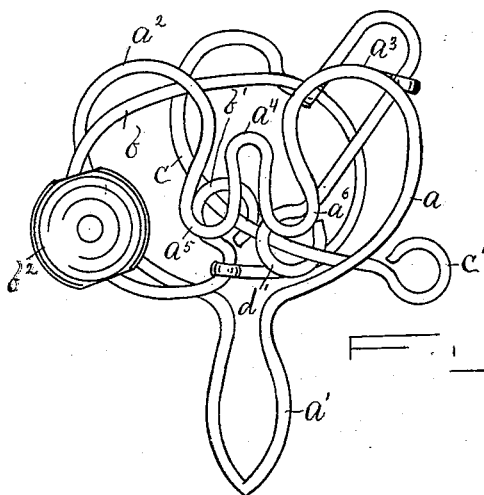
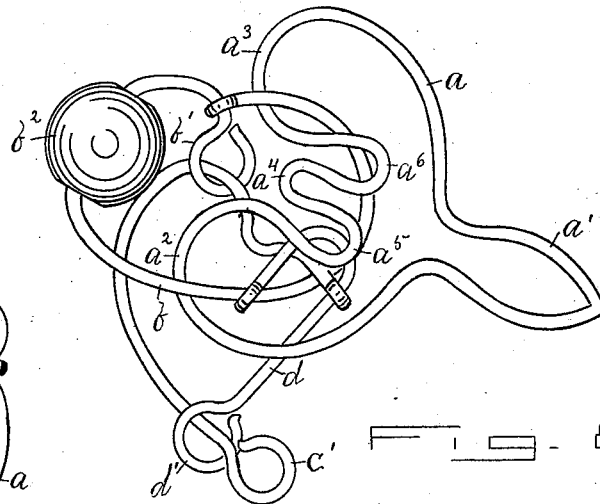
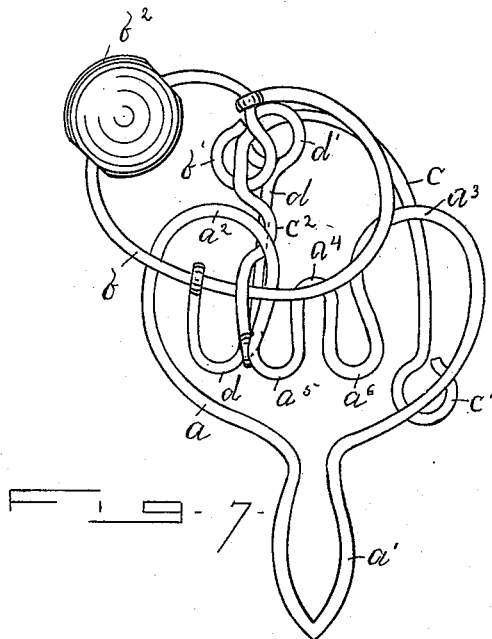
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By Charles G. Dress  
W. T. Miller  
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# UNITED STATES PATENT OFFICE.

CHARLES G. DRESS, OF BUFFALO, NEW YORK.

## PUZZLE.

SPECIFICATION forming part of Letters Patent No. 345,287, dated July 13, 1886.

Application filed April 14, 1886. Serial No. 198,824. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES G. DRESS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention consists of a puzzle in four principal parts, formed of stiff bent wire, three of which parts are permanently attached together with a perforated ball sliding upon one of these parts, the fourth part of the puzzle being intended, by a series of movements and positions of all the parts, to be removed from or placed upon the three permanently-attached parts, all of which are constructed and arranged in a manner which will be more fully hereinafter described.

In the drawings, Figures 1 to 9, inclusive, show in their respective order the different positions in which the parts must be placed during the operation of solving the puzzle.

Referring to the drawings, *a* is the part which is to be placed upon or removed from the other parts. It has the handle portion *a'*, the two curved exterior shoulders or ends, *a<sup>2</sup>* and *a<sup>3</sup>*, and the two interior shoulders, *a<sup>4</sup>* and *a<sup>5</sup>*, with the tongue *a<sup>6</sup>* between them and extending in an outward direction.

*b* is another part, of oval shape, having the inside small eye, *b'*, formed integral with the part *b*, and in the same plane therewith. The small eye *b<sup>2</sup>* encircles the wire near the eye *b'*.

*b<sup>3</sup>* is a perforated sphere of wood sliding upon the part *b*.

*c* is another part, having the large eye *c'* at the outer end of the curved portion, and the small eye *c<sup>2</sup>* at the outer end of the straight portion, with the inwardly-extending shoulder *c<sup>3</sup>*, also upon the straight portion. The shoulder *c<sup>3</sup>* and eye *c'* are in the same plane with the main body of the part *c*, and the small eye *c<sup>2</sup>* is in a plane at right angles thereto.

The fourth part, *d*, has the large eye *d'* and

the bend *d<sup>2</sup>* in the same plane and the small eye *d<sup>3</sup>* in a plane at right angles to the other portions.

The parts *b*, *c*, and *d* are all permanently attached together as follows: (See Fig. 1.) The small eye *d<sup>3</sup>* of the part *d* encircles the oval *b*, and being continued passes through the part *a*, then through the small eye *c<sup>2</sup>* of part *c*, its large eye *d'* loosely encircling the part *c*, the portion *c* before passing through the eye *d'* having been passed through the eye *b'* within the part *b*. The parts *a b c d*, just described, are all formed of stiff wire, and their points of union one with the other are loose to allow of easy manipulation. The part *a*, (shown in Fig. 1 as loosely engaged within the bend *d<sup>2</sup>* of the part *d*,) is ready for removal from the other permanently-engaged parts *b*, *c*, and *d*, as will now be definitely described. Grasp the handle *a'* of the part *a* in one hand, and the other parts, *b*, *c*, and *d*, in the other hand in the positions shown in Fig. 1. Then move the part *a* in the direction indicated by the arrow, as shown in Fig. 1, until the tongue *a<sup>6</sup>* rests between the eyes *b'* and *d'*, as shown in Fig. 2. Then pass the two interior shoulders, *a<sup>4</sup>* and *a<sup>5</sup>*, of the piece *a* down through the part *b*. Then move the tongue *a<sup>6</sup>* through the eye *d'* and over the eye *c'*, giving you the third position. (Shown in Fig. 3.) Now, pass the shoulder *a<sup>2</sup>* over the eyes *c'* and *d'*, so that the part *a* hangs in the part *c*, as shown in Fig. 4. Then pass the shoulder *a<sup>3</sup>* again over the eyes *c'* and *d'*, at the same time drawing the shoulder *a<sup>2</sup>* through the part *b*, which will give you the sixth position, as shown in Fig. 6. Now, for the first time during the entire manipulation, release your hold of the handle *a'* and pass it through the part *b*, taking it again on the other side, and passing the shoulder *a<sup>3</sup>* toward the ball *b<sup>3</sup>*, as shown in next position, Fig. 7. Now, move tongue *a<sup>6</sup>* against the eye *b'*, which will allow you to raise the inner shoulders, *a<sup>4</sup>* and *a<sup>5</sup>*, through the part *b*, which will give you the next position. (Shown in Fig. 8.) Then move the tongue *a<sup>6</sup>* through the eye *b'*, reversing the whole, so that the eyes *c'* and *d'* drop down against the eye *b'*. Then pass the tongue *a<sup>6</sup>* through the eyes *b'* and *d'*, and over the eye *c'*. Then withdraw the tongue from both eyes. Then pass it up through the part *b*, so that their-

ner shoulders,  $a^5$  and  $a^6$ , rest upon the eye  $b'$ . Then pass the tongue  $a^4$  through the eye  $d'$  and over the eye  $c'$ , which gives you the last or ninth position. (Shown in Fig. 9.) The part  $a'$  is  
5 now easily removed from the other parts by passing it over the parts  $c$  and  $d$ . The part  $a$  is placed back in its first position (as shown in Fig. 1) by simply reversing the operation just described.

10 I claim—

The puzzle consisting of the part  $a$ , having the handle  $a'$ , the outer shoulders,  $a^2$  and  $a^3$ , the inner shoulders,  $a^5$  and  $a^6$ , and tongue  $a^4$ , the part  $b$ , having the inner eye,  $b'$ , and small eye

$b^2$ , and the perforated ball  $b^3$ , working loosely 15 thereon, the part  $c$ , having the large eye  $c'$ , small eye  $c^2$ , and shoulder  $c^3$ , and the part  $d$ , having the large eye  $d'$ , bend  $d^2$ , and small eye  $d^3$ , the whole arranged and operating substantially as shown and described. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES G. DRESS.

Witnesses:

OTTO HODDICK,  
W. T. MILLER.