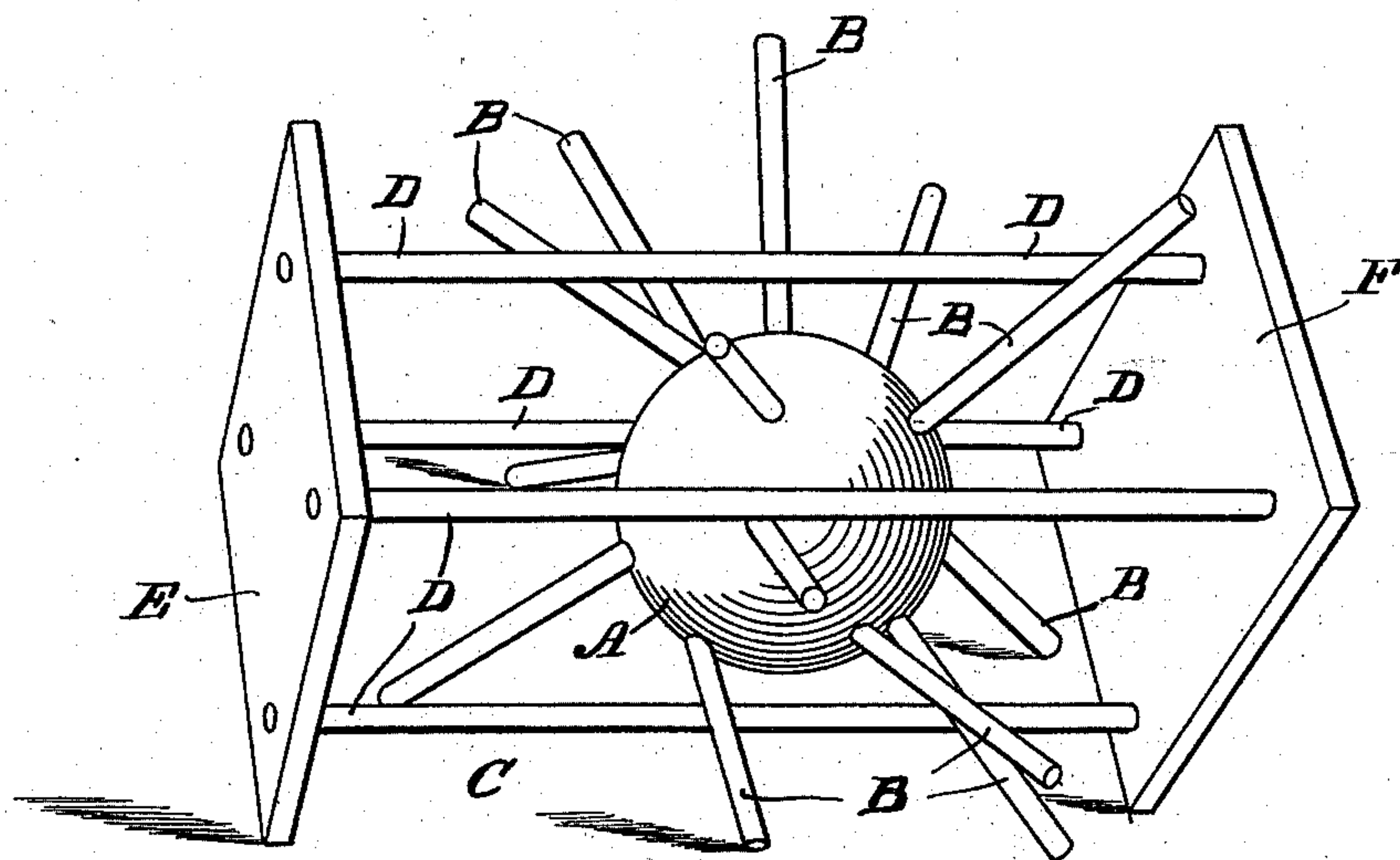


(No Model.)

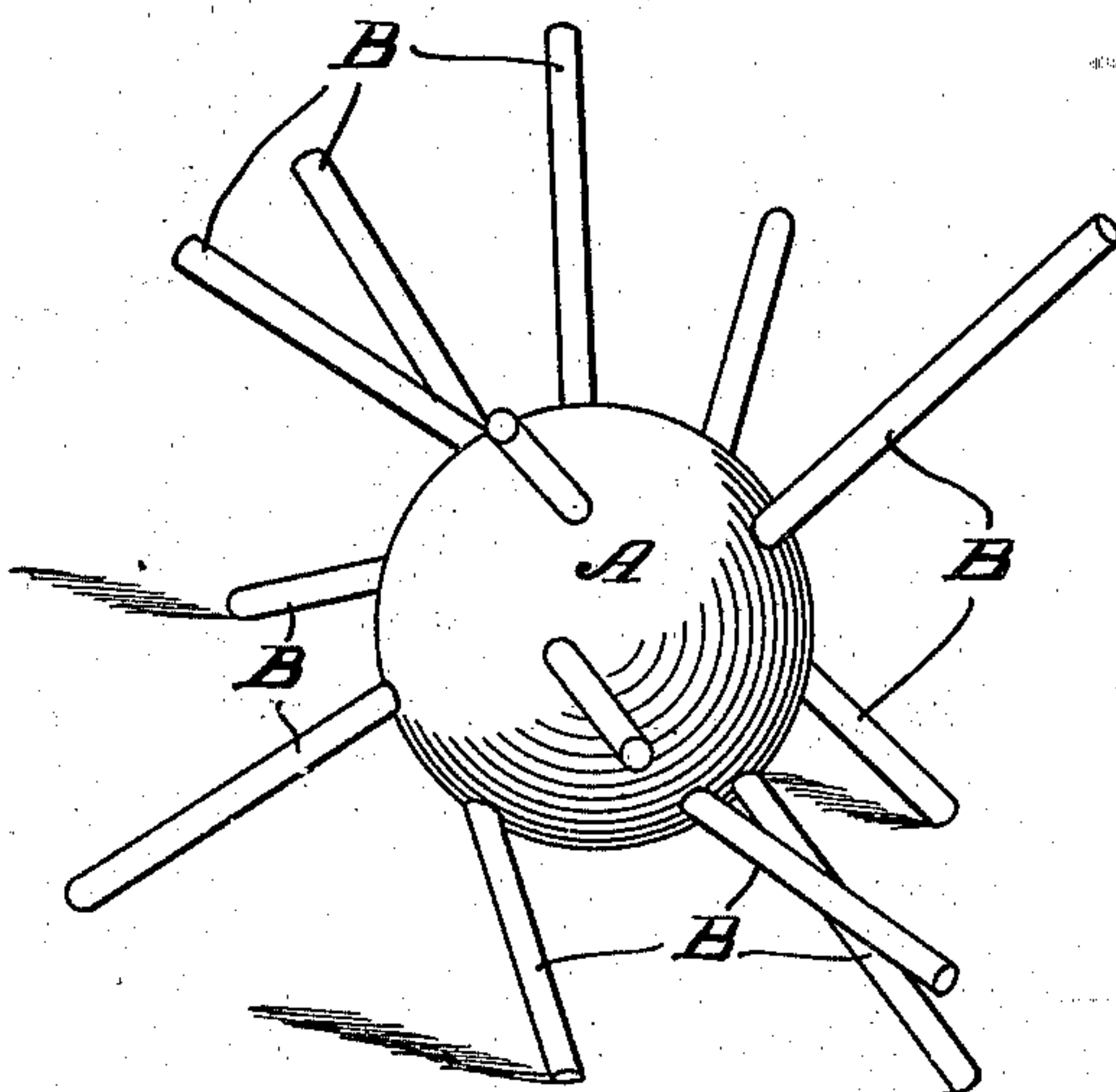
C. A. WORRALL.
PUZZLE.

No. 558,009.

Patented Apr. 7, 1896.

$$F_{10} = 1$$


$\text{Fr} \approx 2$



Witnesses:
W. A. Schaefer.
Craig Shreds

Inventor,
 Clarence A. Wmell
 by his attorney
 Chas. A. Putter.

UNITED STATES PATENT OFFICE.

CLARENCE A. WORRALL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO PARKE C. DOUGHERTY, OF SAME PLACE.

PUZZLE.

SPECIFICATION forming part of Letters Patent No. 558,009, dated April 7, 1896.

Application filed February 5, 1896. Serial No. 578,076. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE A. WORRALL, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Puzzles, of which the following is a specification.

My invention relates to improvements in puzzles; and my puzzle consists of a central portion furnished with thirteen projecting pins and of a cage formed of four or more wires placed at equal distances from one another, the ends of which are secured to suitable bases, so as to be immovable.

My puzzle is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my complete puzzle, and Fig. 2 a side elevation of the ball removed from the cage.

A is the central removable portion of my puzzle, which is furnished with thirteen projecting pins B of the same or substantially the same length placed at different angles to one another.

C is a cage formed of wires D, the ends of which are immovably secured to bases E F. These wires are placed at equal distances from one another, which distances are slightly

greater than the diameter of the central portion A, so as to allow the passage of this central portion between them. The cage may be formed of four wires, as shown in the drawings, or of a greater number, if desired.

In operating the puzzle the central portion A and the pins B are turned and twisted first one way and then the other, and by a proper manipulation the pins may be moved past the wires forming the cage and the central portion A be inserted or withdrawn from the cage.

Having thus described my invention, I claim—

The combination in a puzzle of a central portion furnished with thirteen projecting pins placed at different angles to one another and a cage formed of four or more wires, placed at distances from one another somewhat greater than the diameter of the central portion carrying the pins, and the ends of which are immovably secured to bases, all substantially as and for the purposes set forth.

CLARENCE A. WORRALL.

Witnesses:

CHRISTOPHER FALLON,
CHARLES A. RUTTER.