

(No Model.)

A. KEMPER.
TOY PUZZLE.

No. 584,784.

Patented June 22, 1897.

Fig. 1.

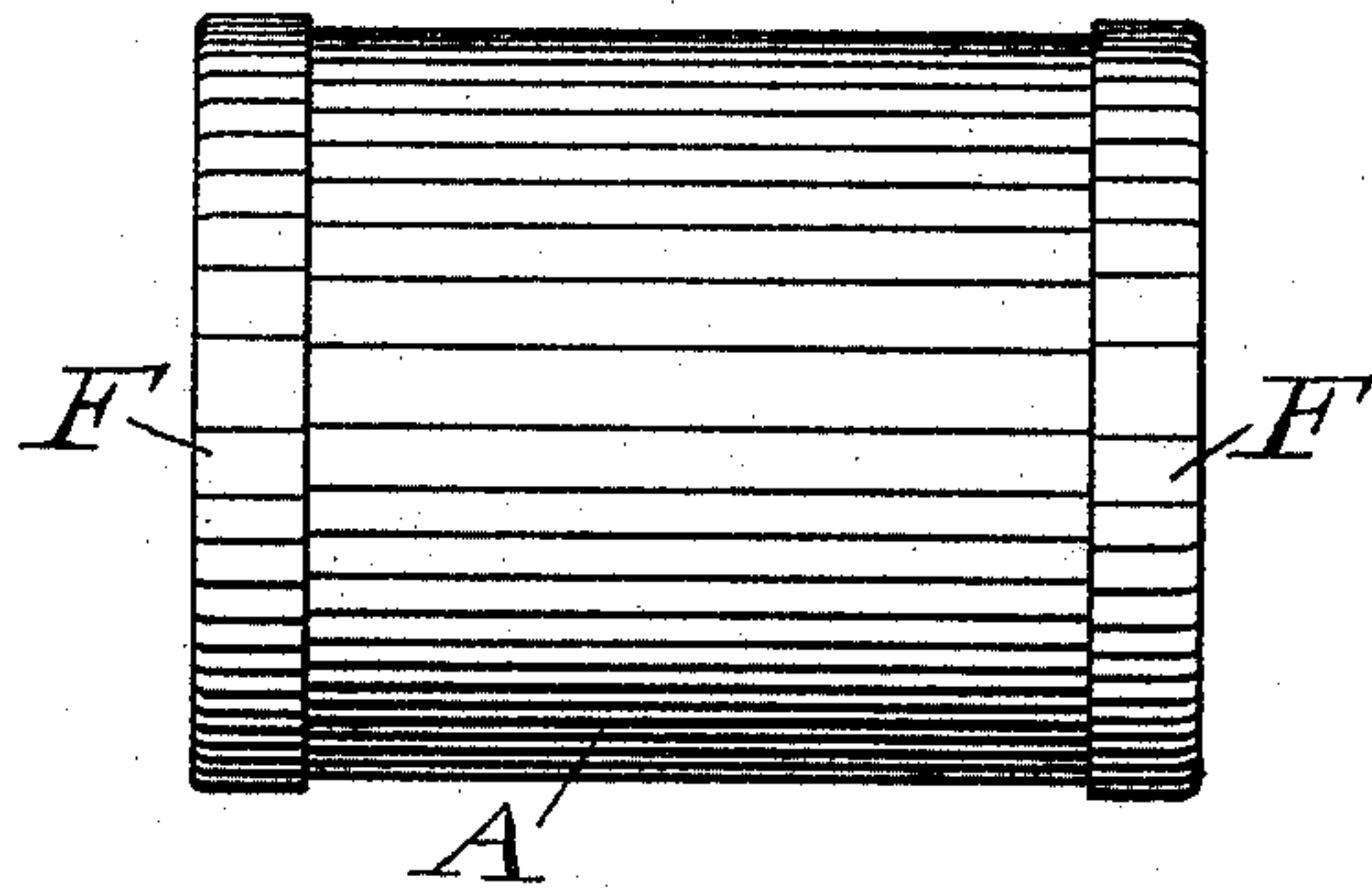


Fig. 2.

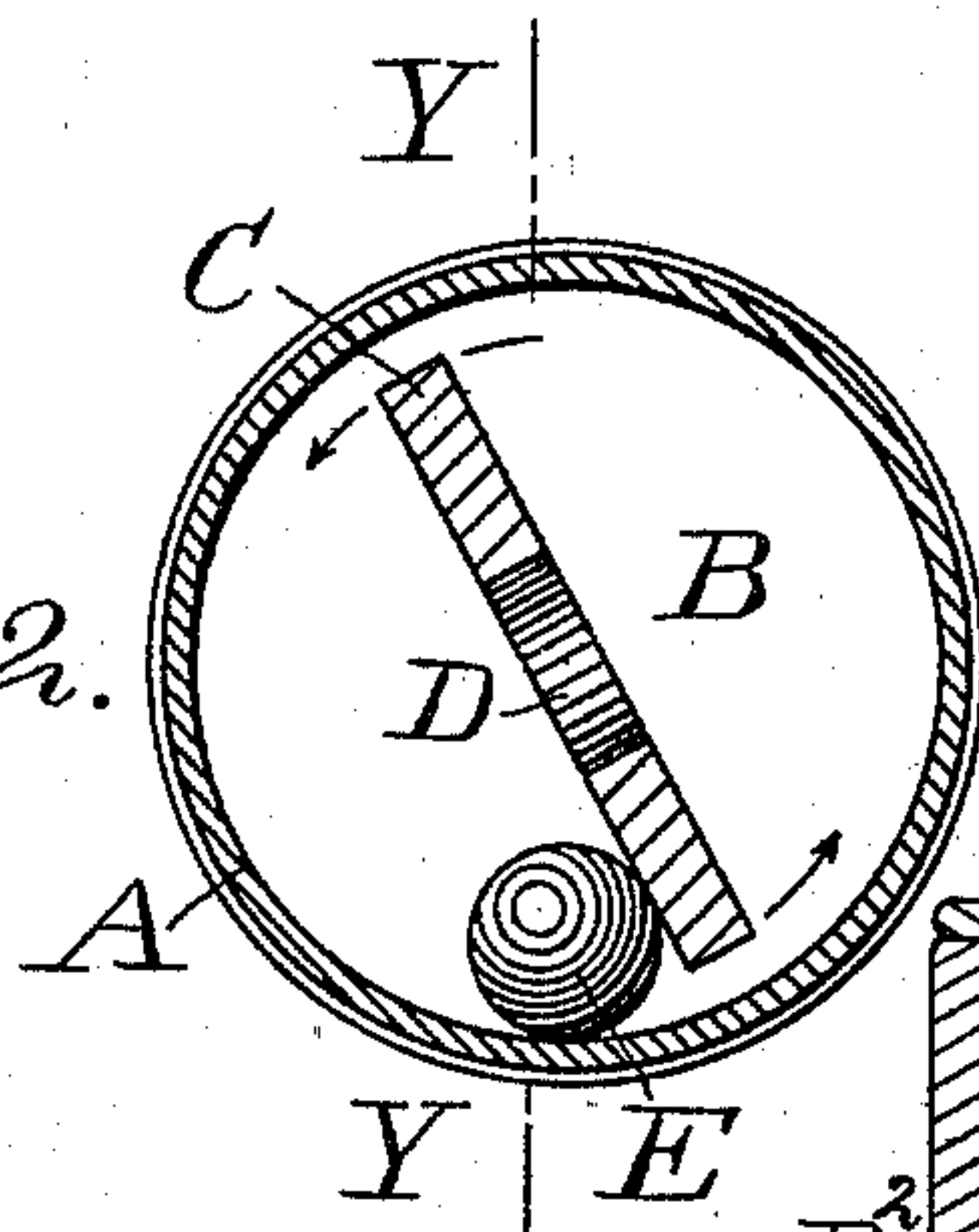


Fig. 4.

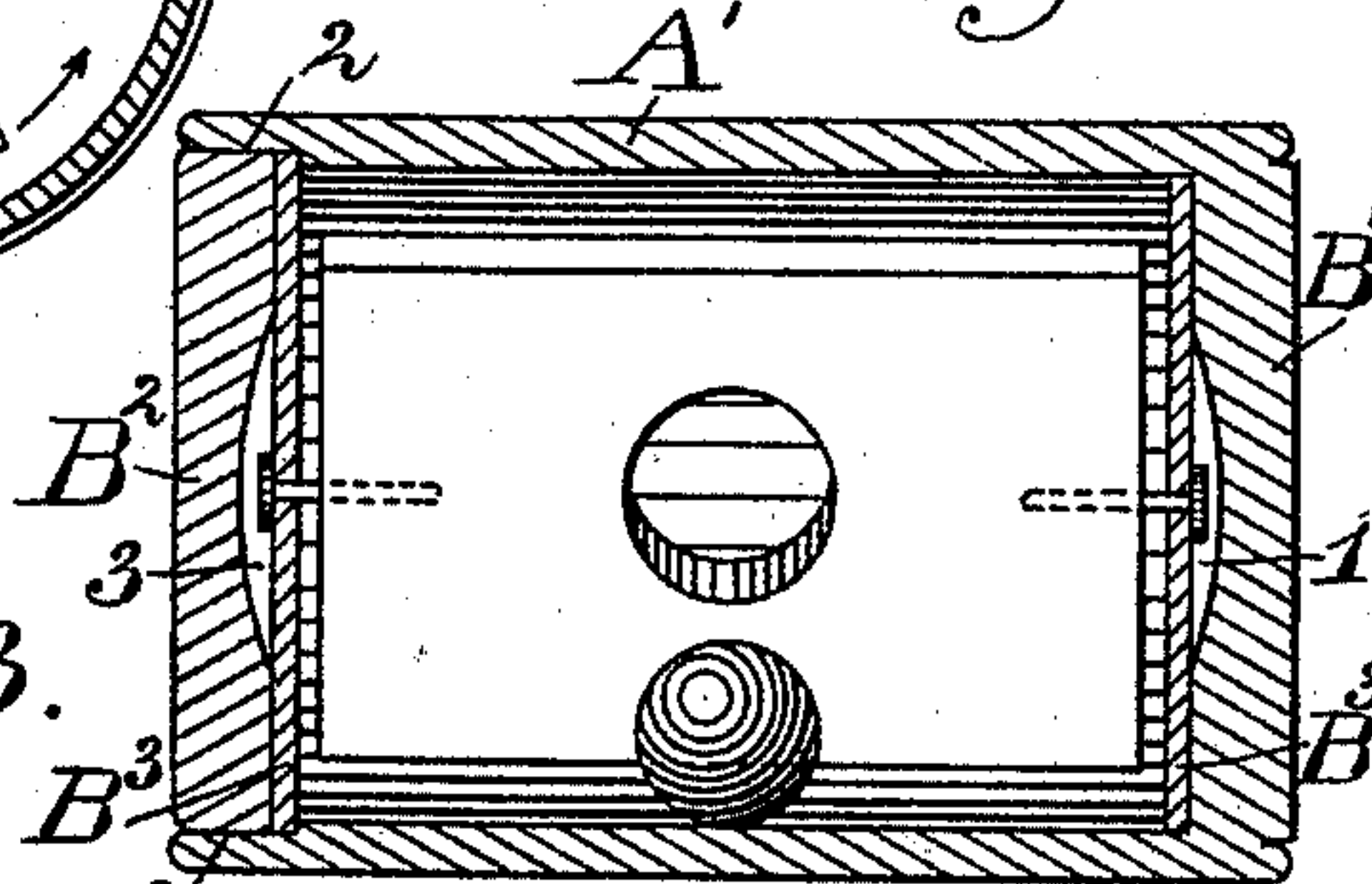
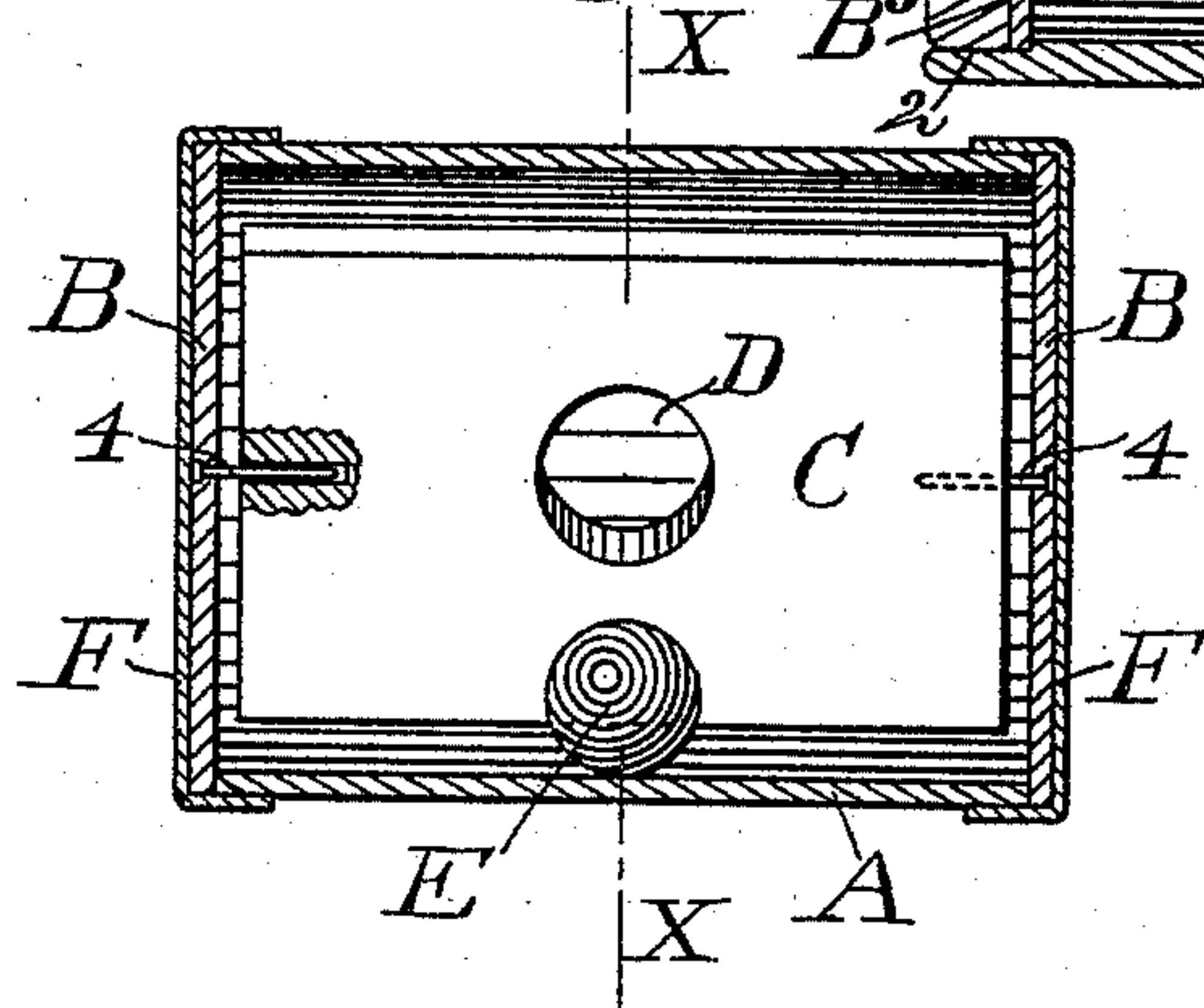


Fig. 3.



Witnesses:

J. W. Fisher.
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Arthur Kemper,
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UNITED STATES PATENT OFFICE.

ARTHUR KEMPER, OF BATH-ON-THE-HUDSON, NEW YORK.

TOY PUZZLE.

SPECIFICATION forming part of Letters Patent No. 584,784, dated June 22, 1897.

Application filed November 12, 1896. Serial No. 611,849. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR KEMPER, of Bath-on-the-Hudson, in the county of Rensselaer and State of New York, have invented new and useful Improvements in Toy Puzzles, of which the following is a full and exact description.

This invention relates to that class of toy puzzles in which it is the object to cause a rolling ball to enter or pass through or into a certain space or opening, in effecting which much dexterity and skill, besides a steady hand, is required, and amusement can be derived therefrom.

In the accompanying drawings, which are herein referred to and form part of this specification, Figure 1 is a side elevation of my invention; Fig. 2, a transverse section at the line X X on Fig. 3; Fig. 3, a longitudinal section at the line Y Y on Fig. 2, and Fig. 4 a longitudinal central section of my invention in a casing composed entirely of glass.

My invention consists of a hollow cylinder of glass or other transparent material provided with a loosely-pivoted central partition arranged longitudinally in said cylinder, said partition being provided with a central opening leading from one side of it to the opposite side, and a ball of a slightly smaller caliber than the diameter of said opening.

As represented in the drawings, A designates the transparent cylinder of my puzzle, which may be made of any convenient size. As shown in the first three figures of the drawings, said cylinder is formed open at both ends with heads B, of cardboard or other suitable material, forming closures for said ends, and has caps F, which are cemented to said cylinder to form supplementary protection to the heads B; but, as shown in Fig. 4, the cylinder A' has a head B' formed in one of its ends, said head being integral with the cylinder and having a concavity 1 formed centrally in its inner face, which concavity is for a purpose hereinafter explained. The opposite end of the cylinder A' is recessed, as at 2, and a separate disk or head B² is fitted to enter said recess and is secured therein by cementation. A concavity 3 is formed centrally in the inner face of said disk for a purpose hereinafter explained. In both ends of the chamber of said cylinder A' cardboard

disks or heads B³ are secured, said disks being provided for a purpose that will be shortly explained herein.

C is a revoluble partition that is arranged longitudinally in the chamber of the cylinder A or A'. Said partition is fitted to rotate loosely on pivots 4, that are secured fixedly in the cardboard heads—either B or B³, according to the construction of the cylinder used—and it should be understood that the partition C must be fitted to turn on the pivots 4 with sufficient ease and freedom to allow said partition to acquire a rotative motion when the slightest pressure is applied near one of its edges. The width of said partition is less than the diameter of the bore of the cylinder in which it is placed, thereby avoiding frictional contact of the partition with the cylinder, and said partition is preferably made of light weight, and in order to positively determine that the ball has passed from one side of the partition to the opposite side the opposite flat faces of the partition are colored differently. In the center of the flat faces of said partition an opening D is formed through the partition, and preferably said opening is circular in form.

E is a globular ball—commonly a marble used by children—having sufficient weight to impart a rotative movement to the partition C when bearing upon a flat face of the latter. Said ball should be slightly smaller in diameter than the opening D, so that it will pass loosely through the latter, and it is contained in the cylinder at either side of the partition.

The object to be attained with my puzzle is to cause the ball to pass from the chamber at one side of the partition into the chamber at the opposite side of the partition, and this may be effected either by imparting motion to the cylinder to cause the ball to accidentally pass through the opening of the partition or by carefully turning the cylinder until the partition is in a level position and the ball directly under the opening, and then suddenly and dexterously lowering the cylinder to cause the ball to pass through said opening, the latter mode requiring much skill and steadiness of hand. The different-colored sides of the partition will enable one to correctly determine whether the ball has passed from one side to the other or not.

It is obvious that the cylinder of my puzzle need not be entirely transparent over its entire surface, for the same end can be attained by making a portion of the same transparent, 5 if the fact of the ball being at the opposite side of the partition from where it was can be definitely determined.

What I claim as my invention, and desire to secure by Letters Patent, is—

10 1. The toy puzzle herein described, the same comprising a cylinder, a partition loosely revoluble in said cylinder and arranged to divide the latter into separate compartments; said partition having an opening that leads from 15 one of said compartments into the other compartment, and a ball fitted to pass loosely

through said opening from one of said compartments to the other, as herein specified.

2. In a toy puzzle, the combination, with a transparent cylinder, a head fixed at each end 20 of said cylinder and provided with fixed pivots, and a revoluble partition fitted to revolve on said pivots and provided with an orifice which opens at each face of said partition, of a ball loosely held in said cylinder and fitted 25 to pass loosely through said orifice, as herein specified.

ARTHUR KEMPER.

Witnesses:

WM. H. LOW,
GEO. W. BARRETT.